U.S. Bond Investment Basics

Notes from the course offered by InteractiveBrokers

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1 Municipal Bonds

Municipal bonds are debt securities that public entities like states, cities, and counties issue to finance public projects or operating needs. Investors lend money to the issuing entity and in exchange receive semianual interest plus return of the principal at the bond's maturity date. They are attractive because interest on these bonds is often exempt from federal income task, as well as state/local tax in cases where the bondholder lives in the issuing state
There are two major municipal bond families that are covered in this section of the course, general obligation bonds and revenue bonds.

1.1 General Obligation Bonds

Also known as GO bonds, these are backed by the issuer's full faith and credit—repayment depends on the issuer's taxing power. They are often issued to fund public projects like roads, railways, schools, parks, and other capital projects.
Depending on the particular issuer, GO debt may be supported by different taxes. In the case of state governments, they are typically backed by income taxes, sales taxes, gas taxes, amongst others. Local governments, on the other hand, tend to back GOs via property taxes, school-related tax revenues, and other local-level taxes.
Because taxpayers ultimately are the ones supporting the debt, some GO must be approved by voters. In addition to that, state constitutions or statuses may cap how much debt the issuer can carry, which creates the issuer's **debt ceiling**.
Since GO repayment comes from the issuer's tax base and financial health, it's important to understand the issuer itself when deciding whether to purchase them. Some important questions to ask oneself are:

- How healthy is the local economy? What industries dominate the area? Is the issuer dependent on a single industry or diversified?
- Is the population rising or declining? Are higher-income residents moving in or out?
- What are the unemployment trends? What is the average household income? Is the tax base expanding or otherwise?
- How much debt is already outstanding? What is the issuer's budget position?
- Are there unfunded pension liabilities or retiree-health obligations?

GOs usually have a stronger legal pledge, but default is still possible—investors are always exposed to fiscal stress, politics, pensions, demographic decline or changes, and poor management.

1.2 Revenue Bonds

Revenue bonds are those that are not backed by taxes but rather by revenue from a specific project or source, such as tolls, airport fees, utility charges, hospital revenues, or transit fares. Some revenue bonds are **non-recourse**, which means that if the revenue stream were to fail, bondholders would have only limited or no claim on other municipal resources. Revenue bonds tend to be riskier than GO bonds because there are more variables involved; if things go wrong in the way the revenue source is managed, consumed, or otherwise face difficulties, the bondholder

might lose capital. That being said, in some scenarios investors might prefer them over GO bonds. For instance, when the issuer has reached its debt ceiling, voters do not approve a new GO issue, or the municipality prefers project-based financing, investors might have to opt for revenue bonds.
There are many categories of revenue bond, such as:

- Housing revenue bonds: Often for low-income housing.
- Healthcare revenue bonds: Non-profit hospitals or health facilities.
- Transporation revenue bonds: bridges, tunnels, tolls, airports, etc.
- Industrial development revenue bonds: facilities for private companies.
- Education bonds
- Utility bonds
- Special tax bonds: repaid from a specific tax, as opposed to the issuer's full taxing power, such as fuel taxes or hotel taxes.
- Moral obligation bonds: they are not full GO bonds, but very similar. The key difference is that a government may have a **non-binding pledge** that it may help replenish reserves or support repayment if needed. This is, however, not a legal full-faith-and-credit pledge.

When analysing revenue bonds, one must take a different approach that the one towards GO bonds. Instead of beginning with the issuer's tax base or collection record, it is important to analyse the project economics and legal structure. For instance:

- What exactly generates cash and how stable is that revenue source?
- What is the gross revenue, operating expenses, maintenance expenses, and other expenses that might affect the project's net income?
- Is the project's feasibility study realistic, representative of market demand, or are there otherwise any issues?
- What does the **indenture**, a document that sets contractual terms and covenants, state about issuer responsibilities, bondholder rights, permitted use of revenues, reserve requirements, remedies in default, and priorities on payment?
- What is the order in which project money is distributed, the **flow of funds**?

Another important item to analyse when it comes to revenue bonds is the **Debt Service Coverage Ratio**, which is defined as:

$$\text{DSCR} = \frac{\text{Net Revenue Available for Debt Service}}{DebtServiceRequirement}$$

The higher this ratio is, the stronger the coverage.

If a given project has a gross revenue of \$6 million, operating and maintenance expenses of \$1 million, that means its net revenue is of \$5 million. If we are told their debt service is of \$2.5 million, then DSCR $= \frac{5000000}{2500000} = 2.0$. This means the bond has $2:1$ coverage, which should be sufficient.

1.3 Other municipal structures

AMT-subject municipal bonds are municipal issues that can be subject to the alternative minimum tax scheme. This is usually the case for certain private-activity type structures. Thus, even when a bond may appear municipal, its interest may not be fully tax-advantaged for investors. Thus, it is important to verify a bond's tax status in advance.
Build America Bonds (BABs) were created under the 2009 stimulus legislation; they are government bonds whose interest paid to investors is taxable.
There are also **double-barreled bonds** which have both project revenues and some form of tax/general government backing as sources of support. They are stronger than pure revenue bonds because they investor has various sources to rely on.
Credit rating agencies, like S&P Global, Moody's, and Fitch assign ratings that summarise bonds' credit quality and likelihood of repayment. Ratings from AAA to BBB are generally considered investment grade while BB to D are speculative grade. Another important figure in the game is that of bond insurers/bond guarantors. They promise payment of interest and principal if the issuer defaults, but the guarantee is only as good as the insurer's own credit quality.

1.4 Due Dilligence

This lesson explains how to compare the yield of a **tax-free municipal bond** to the yield of a **federally taxable bond**, such as a corporate bond. The main goal is to help the investor make an *after-tax* comparison rather than relying only on stated coupon rates or nominal yields.
Municipal bonds are generally not subject to federal income tax. If an investor buys a municipal bond issued by their own state of residence, that investor may also be exempt from state and local taxes on the bond's interest. If an investor buys a municipal bond issued by a different state, then state and local taxes may apply, depending on the investor's residence and tax situation. Corporate bonds are generally subject to both federal and state taxes.
A municipal bond may appear to have a lower stated yield than a corporate bond, but this does *not* necessarily mean the corporate bond is superior. Because municipal bond interest is often tax-advantaged, a lower nominal municipal yield can still produce a better after-tax result than a higher nominal taxable yield. Therefore, investors should compare:

1. the **after-tax yield** of the taxable bond, and/or
2. the **taxable-equivalent yield** of the municipal bond.

To compare a taxable corporate bond to a municipal bond, one first calculates the corporate bond's **net after-tax yield**.

$$\text{After-tax yield of taxable bond} = y_T(1-t)$$

where:

- y_T = taxable bond yield or coupon,
- t = investor's marginal tax rate.

This formula tells you how much of the taxable bond's stated yield the investor actually keeps after taxes.

Let us compare a **5.0% Maine GO bond** to a similar-maturity **Colgate-Palmolive corporate bond** at par. For the example, the investor's tax bracket is assumed to be **22%**.
First, compute the after-tax share of the taxable yield:

$$100\% - 22\% = 78\%$$

Then multiply the corporate bond's yield by 78%.
If the corporate bond yields **2.45%**, then:

$$2.45\% \times 0.78 = 1.911\%$$

So the taxable corporate bond has an **after-tax yield of about 1.91%**.
This means that though the corporate bond's stated yield is 2.45%, the investor effectively keeps only about 1.91% after taxes in this example.

On the flipside, what yield would a **taxable bond** need to offer in order to match the municipal bond's tax-free yield? This is called the **taxable-equivalent yield** (TEY).

$$\text{Taxable-equivalent yield of municipal bond} = \frac{y_M}{1 - t}$$

where:

- y_M = municipal bond yield,
- t = relevant tax rate used for comparison.

This formula converts a tax-free municipal yield into the *equivalent taxable yield* needed to match it.

Assume a **Maine resident** buys the **5.0% Maine GO** at par and is in the **22% tax bracket**. Because this is an **in-state purchase**, assume that **no state tax applies**.
Thus:

$$1 - 0.22 = 0.78$$

and:

$$\text{TEY} = \frac{5.0\%}{0.78} \approx 6.41\%$$

For this Maine resident, a fully taxable bond would need to yield approximately **6.41%** to match the 5.0% tax-free municipal bond.
Now consider an **out-of-state investor** who buys the same 5.0% Maine GO. Assume this investor is then subject to **2% state tax**. This rate, combined with the **22% federal tax rate** ends up in a (very simplified) tax rate of **24%**.
Thus:

$$1 - 0.24 = 0.76$$

and:

$$\text{TEY} = \frac{5.0\%}{0.76} \approx 6.58\%$$

For the out-of-state investor in this example, a fully taxable bond would need to yield approximately **6.58%** to match the Maine GO.

A taxable bond may need to yield *much more* than the municipal bond's stated yield in order to be truly competitive after taxes.

1.5 Tax Considerations

Tax treatment of municipal bonds is one of their main investment attractions, but the exact tax result depends on where the investor lives, what type of municipal bond is owned, and whether the investor realizes a gain or loss when the bond is sold or redeemed.
The starting rule is that **interest on municipal bonds is generally exempt from federal income tax**. This is the main federal tax advantage of municipal securities and is one reason why municipal bonds often offer lower stated yields than comparable taxable bonds. However, the fact that municipal bond interest is generally exempt from *federal* tax does **not automatically mean it is exempt from every other tax**. State and local tax treatment may depend on the investor's residence and the origin of the bond. There is a clear distinction between **in-state** and **out-of-state** municipal bond purchases.
If an investor buys a municipal bond issued by the same state in which that investor resides, the bond's interest is typically exempt from:

- federal income tax,
- state income tax, and
- local income tax.

This is the classic **triple-tax-exempt** scenario for a state resident buying the home-state bond.
If an investor buys a municipal bond issued by a different state, the interest is still generally

exempt from federal tax, but it is typically subject to state and local taxes in the investor's home jurisdiction.

Now, let's go back to **Build America Bonds (BABs)**. BABs were a form of taxable municipal bond issuance created under the American Recovery and Reinvestment Act of 2009. They were intended to help state and local governments finance capital projects such as roads, bridges, and schools at lower borrowing cost, while also attracting taxable fixed-income investors. A key point is that although BABs had municipal-governmental status, the interest paid to investors was taxable. The IRS explains that BABs were governmental bonds eligible for special federal subsidy treatment, but that interest on BABs was not tax-exempt to the investor. The BABs program expired in 2010. IRS materials confirm that, unless extended by future legislation, BABs had to be issued before January 1, 2011.

U.S. tax laws are always changing; for example, there is the **Tax Cuts and Jobs Act of 2017 (TCJA)**, which imposed a cap on the deduction for state and local taxes (SALT). A Congressional Research Service summary explains that the TCJA established a SALT cap of $10,000 for most filers and $5,000 for married filing separately for tax years 2018 through 2025. State and local tax deductibility can materially affect after-tax investing, and tax laws can change.

Tax treatment of a municipal bond's interest is separate from the tax treatment of the bond's capital gain or capital loss. Even when the interest on a municipal bond is federally tax-exempt, a gain realized when the bond is sold or redeemed can still be taxable. Likewise, if the bond is sold for less than the investor's cost basis, the investor may realize a capital loss. In some cases a gain on a municipal bond may be reported as ordinary income rather than capital gain. A major reason for this is the **market discount** rule. Under 26 U.S.C. §1276, gain attributable to accrued market discount on a bond can be treated as ordinary income. Municipal bonds bought at a market discount can also trigger ordinary-income treatment under the de minimis / market-discount rules.

2 Corporate Bonds

A **corporate bond** is a debt obligation: when investors buy one, they are lending money to the issuing company in exchange for promised interest payments and the return of principal at maturity. Unlike shareholders, bondholders do *not* own equity in the company and do not directly participate in its upside growth. Instead, their focus is usually on income generation and capital preservation. In the case of bankruptcy, bond investors generally have priority over shareholders in claims on the firm's assets, which is one reason bonds are often seen as less risky than stocks.

Investors in corporate bonds tend to ask two core questions:

1. *Will I get my principal back when the bond matures?*
2. *Will I receive timely interest payments over the life of the bond?*

These questions summarize the central concerns of the corporate bond market: **default risk**, **credit quality**, and **recovery if things go wrong**.

A corporate bond investor is not primarily trying to identify the next explosive growth story. Instead, the goal is often to preserve capital and earn contractual income, which means the investor must be especially attentive to the issuer's ability to keep its promises. There are several types of corporate debt instruments that you may approach:

- **secured notes**,
- **unsecured notes**,
- **Eurodollar or Yankee bonds**,
- **convertible debt**, and
- **green bonds**.

Take note that **Secured vs. unsecured** debt affects the investor's position in the capital structure. **Convertible debt** adds an equity-linked feature because it may be exchangeable into stock. International bond labels such as *Yankee* or *Eurodollar* indicate specialised cross-border issuance structures. Lastly, Green bonds usually refer to bonds whose proceeds are linked to environmental or sustainability-related purposes.

A company is said to be in **default** if it fails to make a required principal or interest payment on time. This risk makes the firm's **creditworthiness** a central concern to bondholders. If the investor's main objectives are income and capital preservation, then the worst-case scenario is that the issuer cannot make timely coupon or principal payments. This is why corporate bond analysis focuses so heavily on whether the company has enough financial strength, liquidity, and business stability to service its debt throughout the life of the bond.
The **type of debt held**—especially whether it is secured or unsecured—can help determine whether the investor recovers what is owed if the issuer enters bankruptcy. In general, secured debt has a stronger claim because it is backed by collateral or a specific claim on assets, while unsecured debt relies more heavily on the issuer's general credit quality and legal promise to pay.

2.1 Default Risk

A corporate bond is a contractual debt obligation between a company and an investor. Unlike a stockholder, who owns equity in the firm, a corporate bondholder becomes a creditor of the issuing company. The most important risk faced by corporate bond investors is then the risk that the issuer fails to make promise interest or principal payment—the default risk.

A corporate bond is essentially a loan made by the investor to the company. In return for receiving capital from investors, the company makes a legal commitment to pay interest according to the bond's coupon terms, and repay the bond's par value (face value) at maturity. This is the core structure of the bond contract. The investor does not become an owner of the company; instead, the investor becomes a lender / creditor.

The difference between being a creditor and being an equity owner is crucial. Shareholders participate in the upside of the business if profits and stock price rise, but bondholders do

not. Bondholders are entitled only to the promised interest and principal payments. In return, they generally have a stronger legal claim than shareholders if the company gets into financial distress.
Coupon payments are based on the bond's par value and stated coupon rate, and principal is returned when the bond matures.

If a company issues a **10-year corporate bond** with:

- par value = **$1,000**,
- annual coupon rate = **2.5%**,

then the investor must receive:

$$\$1{,}000 \times 0.025 = \$25 \text{ of annual interest}$$

and because the bond pays semiannually, this becomes:

$$\$25/2 = \$12.50$$

every six months for the full 10-year term, plus the return of the original **$1,000 principal** at maturity.
In this case, the investor receives **20 semiannual payments** of **$12.50** over ten years, then the final repayment of principal.

If the issuer fails in any way to satisfy the required debt service—meaning it misses an interest payment, misses a principal payment, or otherwise breaches its payment obligation—the issuer is said to be in default. Even one missed required payment is enough for the bond to be considered in default.
For a corporate bond investor, the main questions are not usually about explosive upside growth. Instead, they are:

1. Will the company continue to pay interest on time?
2. Will the company repay principal at maturity?

If the answer to either becomes doubtful, the bond's value can deteriorate sharply. This is why default risk is often the single most important credit risk in corporate bond investing.

When a company defaults or files for bankruptcy, a corporate bondholder is still a creditor of the firm and therefore has a claim on the issuer's assets and cash flows. However, the priority of that claim depends on the specific terms of the bond and on the bond's place in the company's overall capital structure. Bond investors have priority over shareholders in bankruptcy, but not all bondholders are equal among themselves.

Recovery depends on **seniority** and **security**. Some bondholders stand closer to the front of the repayment line, while others stand further back. This affects both:

- the **likelihood of recovery**, and

- the **amount of recovery** if the company fails.

Similarly, due to the risk of default, bonds can be secured or unsecured. A **secured bond** is backed by pledged collateral, such as:

- property,
- equipment, or
- other assets owned by the issuer.

If the issuer defaults, secured creditors may have a stronger claim because their debt is tied to a specific collateral. An **unsecured bond**, on the other hand, is not backed by specific pledged collateral. Instead, the investor relies on the company's general creditworthiness and general claim on assets. As a result, unsecured bondholders usually rank below secured creditors in a default or liquidation scenario. This distinction helps explain why two bonds from the same company can trade at different yields:

> *The weaker the creditor protection and the lower the expected recovery, the more yield investors usually demand as compensation.*

That is one reason subordinated or unsecured debt often yields more than senior secured debt. A simplified hierarchy of claims normally follows this general order:

1. **Senior secured bonds**
2. **Senior unsecured bonds**
3. **Senior subordinated notes**
4. **Junior subordinated notes**
5. **Convertible bonds**
6. **Preferred stock**
7. **Ordinary (common) stock**

This framework allows one to understand who gets paid first and who last in case of a default.

Bondholders are not the only people or institutions to whom the company may owe money. A distressed company may also have obligations to banks, employees, customers, suppliers, pensioners, or other classes of claimants. Some of these claims may rank at the same level as certain bondholders, or higher than some bondholders, depending on the legal structure. These claims are typically resolved via **bankruptcy court**.
Bankruptcy itself can mean different processes:

- In **Chapter 7**, a company stops operating and its assets are sold to repay creditors.
- In **Chapter 11**, a company tries to reorganize and emerge with a new capital structure.

In both cases, bondholders usually stop receiving regular coupon and principal payments once bankruptcy is underway, and their eventual recovery may come in the form of cash, newly issued bonds, stock, or other claims.

2.2 Interest Rate Risk and Central Bank Support

Another major risk faced by corporate bond investors is **interest rate risk**. Even if the issuer's credit quality does not change, the value of a corporate bond can still rise or fall materially because market interest rates move over time. These rate changes affect many things such as bond prices, issuers' borrowing costs, investor demand, new issue supply, and broader price dynamics in both the primary and secondary markets. Central bank policy has majorly influenced these dynamics over the past decade, especially in moments of hardship like the 2008 financial crisis and the Covid-19 crisis.
Bond prices and issuers' borrowing costs fluctuate with changes in interest rates, and these changes ultimately influence supply and demand in the market.
A corporate bond can decline in value even if the issuer does not default, simply because market rates rise and make the bond's fixed coupon less attractive. This is why interest rate risk is one of the central risks in all fixed-income investing, including corporate bonds. Corporate bonds are generally considered riskier than U.S. Treasuries, so investors are usually compensated for taking this extra risk. That compensation is commonly expressed as a **yield spread** or **basis-point spread**. In general, the difference between a corporate bond's yield and the yield on a comparable Treasury is known as a **credit spread**, and that it is often measured in **basis points** where 1 basis point = 0.01%. This means a corporate bond yield can be thought of as:

$$\text{Treasury yield} + \text{compensation for extra risk}$$

where the extra risk may reflect default risk, liquidity risk, maturity risk, and other market factors.
Several features help determine how much risk an investor assumes in a corporate bond:

- the **maturity** of the bond,
- the issuer's **creditworthiness**,
- and the bond's **liquidity**.

At the same time, **interest rate movements themselves** directly affect the bond's value. So even two bonds from sound issuers can perform differently if they have different maturities, coupon rates, or liquidity conditions.

One of the most important principles in all of fixed income is that **bond prices and market interest rates move in opposite directions**. Corporate bonds have an **inverse relationship with interest rates**: when interest rates rise, the value of the bond falls; when interest rates fall, the value of the bond rises. This happens because, if new bonds are being issued at higher yields, an older bond with a lower fixed coupon becomes less attractive. Its market price must therefore fall so that its yield rises to a competitive level. Conversely, if market yields decline, an older bond with a higher coupon becomes more attractive, so its market price rises.

Imagine Verizon issued a **10-year corporate note at 3%** when the **10-year U.S. Treasury yield was 1%**, and the Treasury yield later rose to **1.5%**, then, assuming other things stayed unchanged, the yield on the corporate bond would also rise by **50 basis points** to **3.5%**. That increase in required yield would make the existing bond **less valuable**.
This shows that even without any change in Verizon's own credit profile, the market value of the bond can fall because the benchmark rate has risen. In practice, market pricing often reflects both Treasury-rate changes and spread changes, but the lesson isolates the **rate effect** to teach the principle clearly.

Suppose an investor bought a corporate bond before rates increased. After rates rise, a new bond can be issued at a more attractive coupon / yield. The older bond therefore becomes less appealing at its original price. To compete with the new issuance, the older bond's **market price must fall**. If rates had declined instead, the reverse would happen and the older bond's price would likely rise.
Issuers of corporate debt may adjust their issuance decisions depending on where they think interest rates are going. If rates are low, borrowing costs are lower, which may encourage issuance. But if investors believe rates will rise soon, demand for long-term fixed-rate issuance may weaken because buyers will fear capital losses. Conversely, if investors believe rates will stay low and the offered yield still looks attractive, there may be stronger demand and plentiful issuance. Interest-rate expectations therefore affect not only the pricing of existing bonds in the **secondary market**, but also the timing, size, and attractiveness of **new issuance** in the **primary market**. This is one reason bond-market supply and demand can change with macro expectations even before rates actually move.
Because corporate bonds have an inverse relationship with U.S. Treasury yields, the same basic interest-rate risks that apply to government bonds also apply to corporate debt. This includes the idea that **maturity affects price sensitivity**: the longer the bond, the more exposed the investor is to interest-rate risk. Corporate bonds do not only inherit Treasury-like rate sensitivity; they also add corporate-specific credit risk on top. So a corporate bond holder is exposed to:

- the general **risk-free rate** moving,
- plus possible changes in the **credit spread**.

This makes corporate bond valuation a combination of **interest-rate risk** and **credit-spread risk**.
Over the past decade, several major central banks pursued **ultra-low**, **zero**, and in some jurisdictions even **negative interest-rate policies**. Other institutions like the Federal Reserve and the European Central Bank even implemented different forms of **quantitative easing**. This low-rate and high-liquidity backdrop helped make both corporate borrowing and corporate bond investing look very attractive. The basic logic is:

- Low policy rates reduce borrowing costs for issuers.
- QE and abundant liquidity push investors toward riskier assets in search of yield.

- That can support demand for corporate bonds and compress spreads.

The volume of the world's **non-financial corporate debt** generally **skyrocketed** over the past decade amid these ultra-low-rate conditions. Central-bank liquidity programs and QE encouraged investors to take more risk as government bond prices rose and yields fell. These forces helped support a large increase in corporate issuance and pushed many investors into the U.S. corporate bond market in search of better yields.
In the case of the Covid-19 crisis, the Federal Reserve took several unprecedented actions to support the financial system and economy, including **corporate credit facilities** for both the **primary** and **secondary** markets. The New York Fed's FAQ confirms that the **Primary Market Corporate Credit Facility (PMCCF)** was designed to support new corporate debt issuance, while the **Secondary Market Corporate Credit Facility (SMCCF)** was designed to support market liquidity for corporate debt in the secondary market. These facilities were intended to purchase **investment-grade bonds** and, under certain conditions, **fallen angels**, as well as certain U.S.-listed fixed-income exchange-traded funds. The New York Fed FAQ confirms that the SMCCF was allowed to buy investment-grade corporate bonds, certain recently downgraded issuers that had been investment grade as of March 22, 2020 and remained at least **BB-/Ba3**, and certain U.S.-listed corporate-bond ETFs.
Thus, central-bank intervention can do more than influence short-term rates; it can directly affect **liquidity**, **risk appetite**, **market confidence**, and the pricing of corporate credit itself.

2.3 Ratings

Corporate bond investors are typically more focused on **income generation** and **capital preservation** than on growth. As a result, they mainly care about:

1. whether they will receive their **principal back at maturity**, and
2. whether they will receive **timely interest payments** while they hold the bond.

Credit ratings are relevant because they are intended to help investors assess the likelihood that these obligations will be met. By analyzing **credit risk**, a corporate bond investor is essentially evaluating the likelihood that a company may **default** on its debt obligations. This is the primary objective of major credit rating agencies such as **Moody's Investors Service**, **S&P Global Ratings**, and **Fitch Ratings**. Credit ratings eliminate risk or predict the future with certainty. Rather, it says that ratings are meant to summarize the **severity of default risk** posed by a specific bond and its issuer, so that investors can use that information as **one input** in their decision-making.
To rank the severity of credit risk, credit rating agencies use a **rating scale**. This scale categorizes the creditworthiness of most corporate debt issuers and their debt offerings into two broad groups:

- **investment-grade credits**, and
- **lower-quality credits**.

The broad split typically runs from **'AAA' to 'BBB'** for investment grade and from **'BB' to 'C'** for lower quality credits. Each agency, though, uses its own exact notation:

- **S&P and Fitch**: letter ratings like AAA, AA, A, BBB, BB, etc., often with `+` or `-` modifiers,
- **Moody's**: a similar hierarchy but using forms like `Aaa`, `Aa1`, `A1`, `Baa3`, etc.

The lesson states that an issuer with an **investment-grade rating** is viewed by that agency as being **more likely to make timely debt-service payments** than an issuer rated below investment grade. By contrast, issuers rated below investment grade are described as:

- **high yield**,
- **speculative**, or
- **junk**.

That does *not* mean investment-grade bonds are risk-free or that high-yield bonds always default, but it does mean the market treats them as carrying different degrees of credit risk.
Corporate bond investors are generally compensated for taking higher degrees of credit risk through **higher interest rates**; weaker credit generally means the issuer must pay more to borrow.
All else equal, investors usually require a **larger coupon / higher yield** for lower-rated debt.
In real markets, bond yields are also affected by:

- maturity,
- liquidity,
- currency / jurisdiction,
- call features,
- seniority and collateral,
- and prevailing interest rates.

But the general direction of the rating-compensation relationship is:

$$\text{Lower rating} \Rightarrow \text{higher coupon / yield compensation}$$

Rating agencies generally aim to provide a **detailed fundamental assessment** of both:

- the **corporate bond issuer**, and
- the **specific debt offering**.

S&P's own explanation of credit ratings likewise says that ratings are intended to be forward-looking opinions about an issuer's **relative creditworthiness**, based on both quantitative and qualitative factors. Fitch similarly says ratings express the relative ability of an entity or obligation to meet its financial commitments. Agencies may analyze:

- the creditworthiness of the issuer,
- the role of any **guarantor** or **insurer**,

- whether the deal has **credit enhancement**,
- and the issuer's **capacity and willingness** to meet its scheduled obligations.

Some agencies may consider specific issuance terms such as:

- **collateral**,
- **security**,
- and **subordination**,

which can affect a bondholder's ultimate payment or recovery in the event of default.

A **Fallen Angel** is an issuer that was previously **investment grade** but has crossed below the investment-grade threshold into **high yield**. A **Rising Star**, on the other hand, is an issuer that was previously **non-investment grade** but has improved enough to move up into the **investment-grade** category. The lesson says that a rating of **D** generally signals that the issuer is in **default**.
These migration labels matter because crossing the investment-grade boundary can have significant market consequences:

- some institutional investors are restricted from holding non-investment-grade debt,
- a downgrade can widen spreads and reduce demand,
- while an upgrade into investment grade can expand the buyer base and often lower borrowing costs.

Important caution: **not all corporate bonds are rated**, and even when a bond is rated, investors should not treat the rating as the **only** thing they need to know. A rating:

- is **not investment advice**,
- is **not the security's market price**,
- does **not reflect all risks** such as market or liquidity risk,
- and should **not be the sole basis** for an investment decision.