

Elphinstone Research Group

Fixed Income Essentials

3 Important Elements

As an investor, there are 3 important elements that an investor understand before investing in a fixed-income security:

Features of the Fixed Income Security: Issuer, Maturity, Par Value, Coupon Rate, Currency denomination.

Legal, Regulatory and Tax: The contractual agreement between issuer and bondholders

Contingency Provisions: These are options that give the issuer certain rights affecting the bond's redemption.

Features of Fixed Income Securities

Issuer

Many entities issue bonds and they are categorised on their similar characteristics:

- Supranational Organisations: World Bank, European Investment Bank, Sovereign Governments: United States, Japan, ...
- Non-sovereign Governments: US States, Catalonia in Spain, ...
- Quasi-Government Entities: Agencies owned or sponsored by the government
- Companies

Why do we care?

- Credit risk: The risk of loss resulting from the issuer failing to make full and timely payments of interest and/or repayment of principal.
- Credit Rating: Credit Rating Agencies exist to help distinguish between creditworthiness of issuers. The biggest agencies are Moody's, S&P, and Fitch.
- Some financial intermediaries may be restricted in their holdings of non-investment grade bonds.

Issuer: Credit Rating Classifications

	Moody's	S&P	Fitch	Meaning
Investment Grade	Aaa	AAA	AAA	Prime
	Aa1	AA+	AA+	High Grade
	Aa2	AA	AA	
	Aa3	AA-	AA-	
	A1	A+	A+	Upper Medium Grade
	A2	A	A	
	A3	A-	A-	
	Baa1	BBB+	BBB+	Lower Medium Grade
	Baa2	BBB	BBB	
Baa3	BBB-	BBB-		
Junk	Ba1	BB+	BB+	Non Investment Grade Speculative
	Ba2	BB	BB	
	Ba3	BB-	BB-	
	B1	B+	B+	Highly Speculative
	B2	B	B	
	B3	B-	B-	
	Caa1	CCC+	CCC+	Substantial Risks
	Caa2	CCC	CCC	Extremely Speculative
	Caa3	CCC-	CCC-	In Default w/ Little Prospect for Recovery
	Ca	CC	CC+	
		C	CC	
			CC-	In Default
D	D	DDD		

Maturity

Maturity Date: The maturity date of a bond refers to the date when the issuer is obligated to redeem the bond by paying the outstanding principal amount.

Tenor: The time remaining until the bond's maturity date. Also known as the term to maturity.

Maturities range from overnight to 30 years or longer. Bonds can be categorised by their maturities at issuance:

- **Money Market:** One year or less. Examples include CP, Certificates of Deposit
- **Capital Market:** Maturities longer than one year
- **Perpetuals:** Perpetual bonds have no maturity date e.g. consols in the UK

Par Value

- **Par value** (also called face value or principal) is the amount the issuer repays to bondholders at maturity.
- Bond prices are quoted as a % of par value.
 - Example: A quote of 95 means a bond with \$100 par value trades at \$95.
- **Pricing relative to par:** Quote < 100: trades at a discount. Quote = 100: trades at par. Quote > 100: trades at a premium
- *Note: Par Values are not to be mistaken with Par Rates which we will cover later*

Coupon Rate and Frequency

The coupon rate or nominal rate of a bond is the interest rate that the issuer agrees to pay each year until the maturity date.

The frequency of coupon payments may be made annually (Bunds), semi-annually (T-bonds), quarterly (QUIBS/QUIDS) or even monthly (MBS). For example, a 6% coupon rate and a par value of \$1,000 means regardless of the frequency of payments, the bondholder will receive $6\% \times \$1,000 = \60 every year in coupon payments.

- Annually: Single \$60 payments
- Semi-Annually: Two \$30 payments
- Quarterly: Four \$15 payments
- ...

Examples

- Plain Vanilla Bond: Pay a fixed rate of interest for its lifetime
- Floating-Rate Notes (FRNs): Split into two components (1) Reference Rate (2) Spread based on credit risk e.g. SOFR+150bps
- Zero-Coupon Bonds: As their name suggests their coupon rate is 0%!

Currency Denomination

Bonds issued in a foreign currency exposes the bondholder to FX risk. Factors to consider:

- Liquidity
- Freely traded?
- Volatility

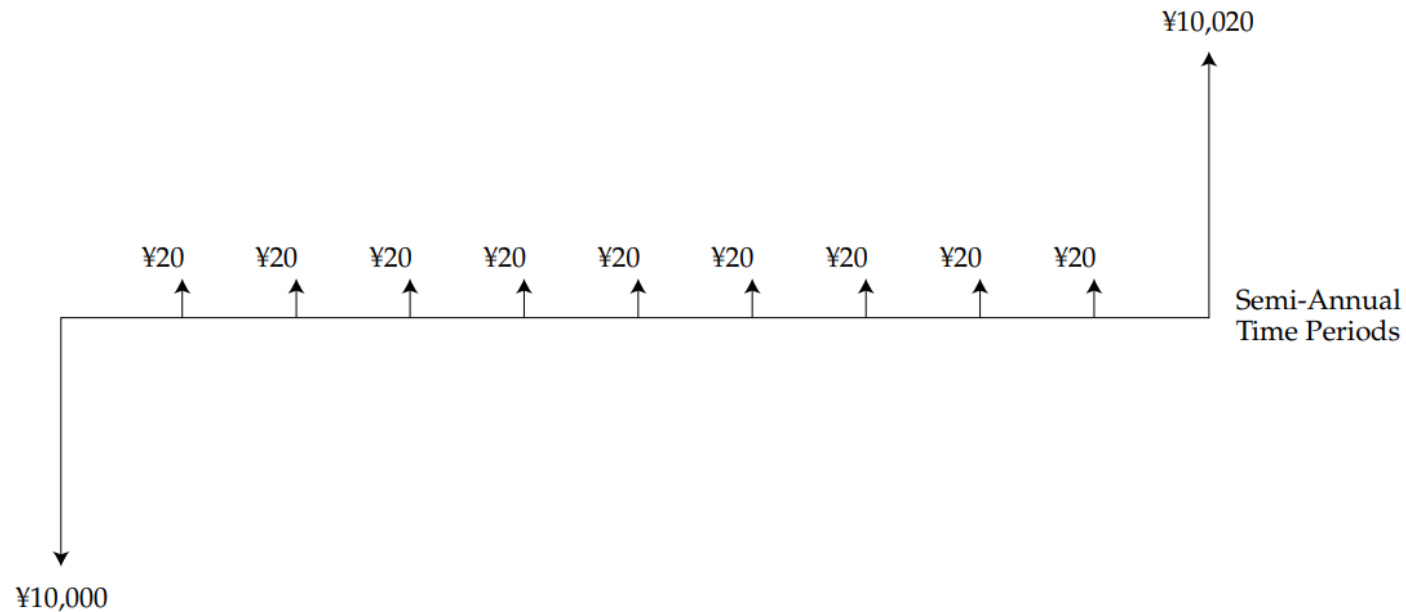
For these reasons Eurobonds exist such that issuers can issue in non-domestic currency.

- **Dual-Currency Bonds:** Coupon payments are made in one currency and payment of par value in another currency.
- **Currency Option Bonds:** Combination of a single-currency bond +foreign currency option. This gives the bondholder the right to choose the currency they receive coupon/principal payments.

Features of FI Securities: Example

Example: Can you walk through the basic features of this 5Y JGB with a 0.4% coupon and ¥10,000 par value. Coupon payments are made semi-annually. What risks are investors exposed to?

EXHIBIT 1 Cash Flows for a Plain Vanilla Bond



Measures of Yield

We cover yields more thoroughly later in the course. The main yields to be aware of are:

- Current Yield: Annual Coupon/Bond Price. This is analogous to the dividend yield for common shares.
- Yield to Maturity (YTM): The internal rate of return on a bond's expected cash flow. This is the discount rate that equates the present value of the bond's expected cash flows until maturity with the bond's price.
- Note the YTM depends on the compounding frequency of returns i.e.

$$(1 + r)^n \neq \left(1 + \frac{r}{2}\right)^{2n} \neq \left(1 + \frac{r}{m}\right)^{mn}$$

Legal, Regulatory and Tax

Legal: Bond Indenture

The Trust Deed is the legal contract that describes the form of the bond, the obligation of the issuer, and the rights of the bondholders. Market participants often call this document the bond indenture. Topics of interest mentioned include:

- Principal Value/ Par Value, Coupon Rate, Dates of Payments, Maturity Date
- Contingency Provisions
- Funding sources for the interest and principal repayments.
- Collateral: Asset/Financial guarantees above and beyond issuer's promise to pay
- Credit Enhancements: Provisions to reduce credit risk
- Covenants: Clauses specifying the rights of the bondholders and any actions the issuer is obligated/prohibited from performing.

The indenture is usually held by a trustee who monitors the issuer on behalf of the bondholders.

Legal: Role of a Trustee

- Monitors that the issuer complies with the obligations specified in the indenture and takes action on behalf of bondholders when necessary
- Maintains documentation and records, holding beneficial title to, safeguarding, and appraising collateral.
- Invoicing the issuer for interest payments and principal repayments.
- In the event of default, the discretionary powers of the trustee increases. They call meetings for bondholders to discuss the actions to take. The trustee can also bring legal action against the issuer on behalf of the bondholders.

Summary: Indentures

To recap, investors should pay thorough attention to:

- The Legal Identity of the bond issuer and its legal form
- The source of repayment proceeds
- The asset or collateral backing (if any)
- The credit enhancements (if any)
- The Covenants (if any)

1. Legal Identity of the Bond Issuer

Legal issuer vs. issuing body

- The issuer is defined in the indenture by its legal name.
- The entity administering issuance may differ from the legal obligor.
- Example: UK gilts are issued by the **UK DMO**, but repayment is the obligation of **HM Treasury**.

Corporate bond issuance

- Bonds are typically issued by the corporate legal entity.
- Sometimes issued by a subsidiary of a parent company.
- Investors assess the subsidiary's credit quality unless a **parent guarantee** is specified in the indenture

1. Legal Identity of the Bond Issuer

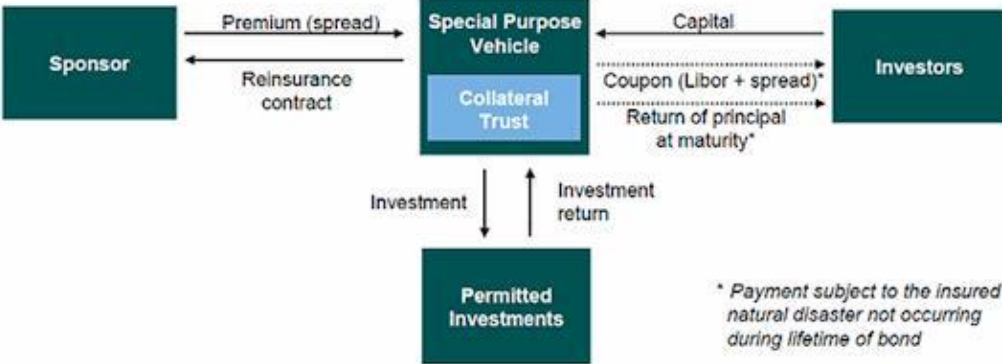
Holding company issuance

- Bonds may be issued by a parent holding company rather than an operating subsidiary.
- Credit risk and ratings may differ from those of operating companies.
- Investors may have limited recourse to operating assets.

Securitised bonds

- Issued by a separate legal entity, typically a Special Purpose Vehicle (SPV).
- The originating financial institution is known as the sponsor.
- SPVs are bankruptcy-remote: assets are legally sold and insulated from sponsor default.

1. SPV Illustration



2. Source of Repayment

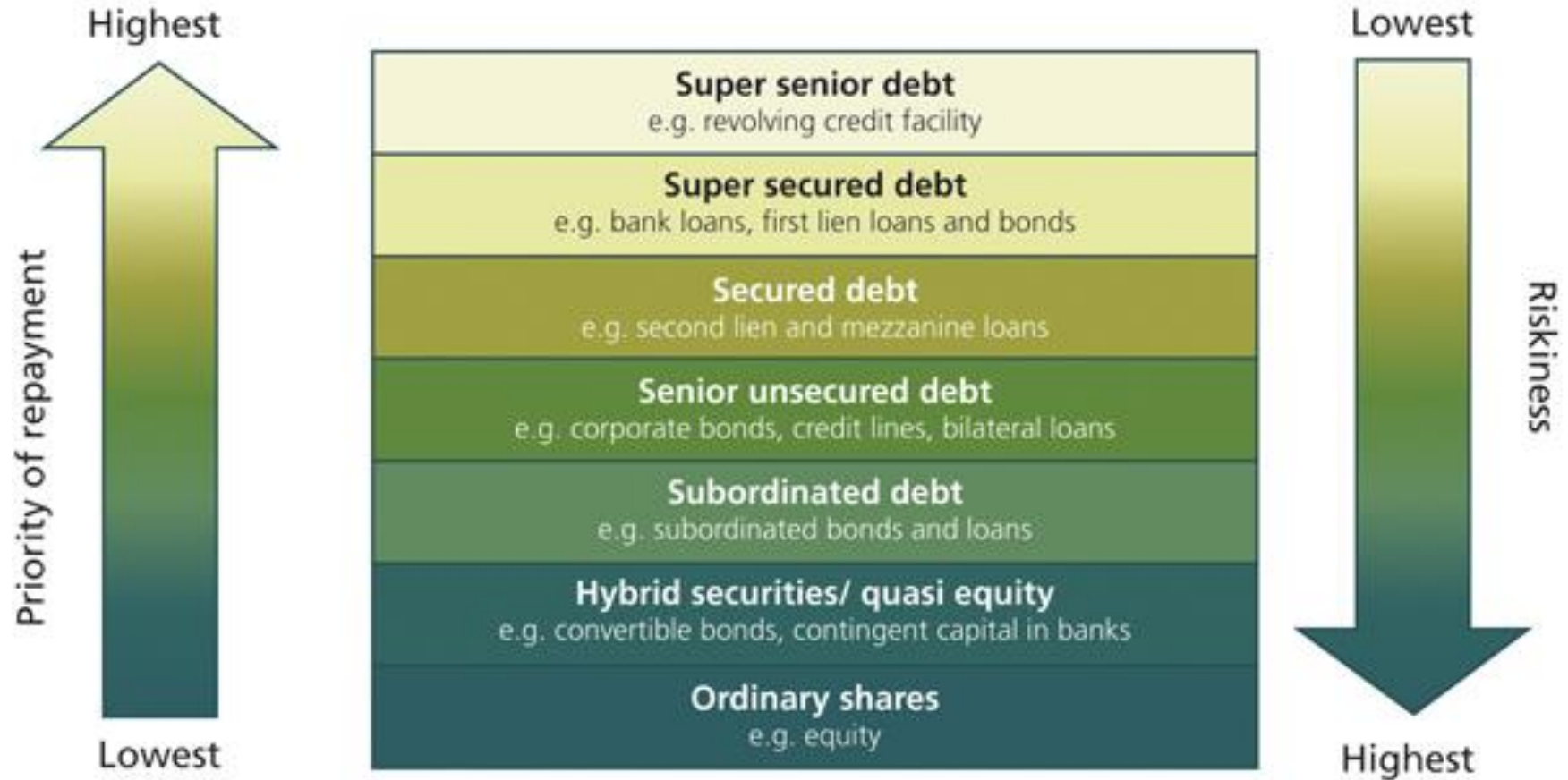
The bond indenture specifies the mechanisms through which the issuer services interest payments and repays principal. Repayment sources vary across issuer types:

- **Supranational Organisations:** Debt is typically serviced through repayments from previously extended loans and paid-in capital contributed by member countries, which forms part of the institution's permanent equity base.
- **National Governments:** May provide explicit guarantees supporting the repayment of certain bond issuances.
- **Sub-Sovereign Government Debt (e.g., States and Municipalities):** Repayment generally arises from:
 - General taxing authority of the issuing entity
 - Cash flows generated by the financed project (revenue bonds)
 - Dedicated taxes, levies, or fees established specifically to service the debt
- **Corporate Bonds:** Serviced primarily through operating cash flows generated by the issuer's business activities.
- **Securitised Instruments:** Repayment is funded by cash flows from underlying financial assets that are legally ring-fenced to meet contractual payments to bondholders.

3. Asset or Collateral Backing

- Collateral is a way to alleviate credit risk. Investors should review where they rank compared with other creditors in the event of default. Investors should review the quality of the collateral backing the bond issue
- Secured bonds are backed by pledged assets or financial guarantees that protect investors in the event of issuer default. By contrast, unsecured bonds (debentures) have no collateral, leaving bondholders with only a general claim on the issuer's assets and cash flows. The provision of collateral typically improves credit quality and reduces credit risk. In some cases, collateral may not reference specific assets, but instead cover the issuer's "general plant and infrastructure."
- When collateral is broadly defined, investors place greater emphasis on seniority ranking: the priority order in which creditors are repaid during bankruptcy or liquidation. In practice, an investor's relative position within the capital structure often has a greater influence on recovery prospects than the presence of collateral alone.
- The above is especially important for debentures which a debt instrument which: In the UK & Commonwealth countries: Secured. In many jurisdictions: Unsecured. If the debenture is secured, debenture holders rank above unsecured creditors of the company.

3. Collateral: Seniority Ranking Example



3. Collateral: Types of Backing

- **Collateral Trust Bonds:** Secured by securities such as common shares, other bonds, or other financial assets. These securities are pledged by the issuer and typically held by the issuer.
- **Equipment Trust Certificates:** Bonds secured by specific types of equipment or physical assets, such as aircraft, railroad cars, shipping containers, or oil rigs. They are commonly issued to take advantage of the tax benefits of leasing.
- **Covered Bond:** A debt obligation backed by a segregated pool of assets called a "cover pool". They are similar to securitised bonds but offer additional protection in the case of default but covered bonds are not bankruptcy remote.

4. Credit Enhancements

Credit Enhancements are provisions that can reduce the credit risk of a bond issue and is often used for securitised bonds. Credit enhancement provides additional collateral, insurance, and/or third-party guarantee that the issuer will meet its obligations. Thus, it reduces credit risk.

There are two primary types of credit enhancement: internal and external.

1. Internal: Relies on structural features regarding the priority of payment or the value of the collateral
2. External: Refers to guarantees received from a third party, often called a guarantor.

Examples

- **Subordination:** Establishes priority of creditor claims within a capital structure. In a “waterfall” structure, senior creditors are repaid first, while subordinated investors absorb losses earlier.
- **Overcollateralization:** Occurs when collateral value exceeds issued debt(e.g., \$120M of mortgages backing \$100M of MBS). Protection depends on accurate collateral valuation.
- **Excess Spread:** Difference between asset income and interest paid to investors. Acts as a loss buffer via reserve accounts or is used to accelerate principal repayment, typically prioritising senior debt.

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