Bonds & Fixed Income Investing Cheatsheet

A comprehensive cheat sheet covering essential concepts, strategies, and terminology related to bonds and fixed income investing. From understanding bond characteristics to analyzing yield curves, this guide provides a quick reference for investors of all levels.

Bond Basics

Key Bond Characteristics

Issuer	Entity that borrows the money (e.g., government, corporation).
Principal (Face Value)	Amount repaid to the bondholder at maturity (typically $1,000).
Coupon Rate	Annual interest rate paid on the face value.
Coupon Payment	Periodic interest payment (e.g., semi-annual) calculated as (Coupon Rate x Face Value) / Number of Payments per Year.
Maturity Date	Date when the principal is repaid.
Yield to Maturity (YTM)	Total return anticipated on a bond if held until it matures, considering interest payments and the difference between purchase price and face value.

Types of Bonds

Treasury Bonds	Issued by the U.S. government; considered risk-free.
Municipal Bonds	Issued by state and local governments; often tax-exempt.
Corporate Bonds	Issued by corporations; higher yield but higher risk.
Agency Bonds	Issued by government-sponsored enterprises (GSEs).
Mortgage-Backed Securities (MBS)	Securitized mortgages; cash flow depends on homeowner payments.
High-Yield (Junk) Bonds	Bonds with lower credit ratings; higher risk of default, offering higher yields.

Bond Valuation & Risk

Bond Pricing

Bond prices move inversely to interest rates. When interest rates rise, bond prices fall, and vice versa.

Formula:
Bond Price = Present Value of Coupon Payments + Present Value of Face Value

Where:

- Present Value of Coupon Payments = $\sum_{t=1}^{n} \frac{C}{(1+r)^t}$
- Present Value of Face Value = $\frac{FV}{(1+r)^n}$
- C = Coupon Payment
- r = Discount Rate (Yield to Maturity)
- FV = Face Value
- n = Number of Periods

Key Risks

Interest Rate Risk	Risk that bond prices will fall due to rising interest rates.
Credit Risk	Risk that the issuer will default on its obligations.
Inflation Risk	Risk that inflation will erode the real value of bond returns.
Reinvestment Risk	Risk that future interest payments will have to be reinvested at lower rates.
Liquidity Risk	Risk that the bond cannot be easily sold without a significant loss in value.
Call Risk	Risk that the issuer may redeem the bond before maturity, typically when interest rates fall.

Credit Ratings

Investment Grade	Bonds rated BBB- or higher by S&P and Baa3 or higher by Moody's. These are considered lower risk.
Non-Investment Grade (Junk)	Bonds rated BB+ or lower by S&P and Ba1 or lower by Moody's. These are higher risk.
Key Rating Agencies	Standard & Poor's (S&P), Moody's, Fitch Ratings.

Yield Curve & Strategies

Understanding the Yield Curve

The yield curve is a graphical representation of yields on similar bonds across different maturities.

- **Normal Yield Curve:** Upward sloping, indicating that longer-term bonds have higher yields than shorter-term bonds.
- **Inverted Yield Curve:** Downward sloping, indicating that shorter-term bonds have higher yields than longer-term bonds (often a predictor of recession).
- **Flat Yield Curve:** Little difference in yields across maturities.

Bond Investment Strategies

Laddering	Investing in bonds with staggered maturities to reduce interest rate risk and provide regular cash flow.
Barbell Strategy	Investing in short-term and long-term bonds, with little or no investment in intermediate-term bonds.
Bullet Strategy	Investing in bonds that all mature around the same future date to meet a specific financial goal.
Active Management	Actively trading bonds to take advantage of interest rate movements and market inefficiencies.

Bond Market Indicators

Treasury Yields	Benchmark for other bond yields and interest rates.
Credit Spreads	Difference in yield between corporate bonds and Treasury bonds, reflecting credit risk.
Inflation Expectations	Influenced by factors like CPI and Producer Price Index (PPI).

Fixed Income Instruments

Money Market Instruments

Treasury Bills (T-Bills)	Short-term debt obligations of the U.S. government, maturing in one year or less.
Commercial Paper	Short-term unsecured promissory notes issued by corporations.
Certificates of Deposit (CDs)	Savings accounts that hold a fixed amount of money for a fixed period of time, and pay a fixed interest rate.
Repurchase Agreements (Repos)	Short-term borrowing agreement where securities are sold with an agreement to repurchase them at a later date.

Bond Funds and ETFs

Bond Mutual Funds	Pooled investments in a portfolio of bonds, actively managed by a fund manager.
Bond ETFs	Exchange-traded funds that track a specific bond index or bond market segment.
Benefits	Diversification, liquidity, professional management.
Considerations	Expense ratios, tracking error (for ETFs), fund manager skill (for mutual funds).

Inflation-Indexed Securities

Treasury Inflation-Protected Securities (TIPS)	U.S. Treasury bonds that are indexed to inflation to protect investors from the decline in the purchasing power of their money.
How TIPS Work	The principal is adjusted based on changes in the Consumer Price Index (CPI), and interest payments fluctuate accordingly.