Glossary of Bond Analytics Terms

Bond

A fixed-income security representing a loan from an investor to a borrower (usually a corporation or government). The issuer promises to pay periodic interest (coupons) and return the face value (par value) at maturity.

Callable Bond

A bond that gives the issuer the right (but not the obligation) to redeem (repay) the bond before its maturity date, typically on specified dates and at specified prices (see Call Schedule). Callable bonds usually offer higher coupon rates to compensate for the risk of early redemption.

Non-Callable Bond

A bond that cannot be redeemed by the issuer before its scheduled maturity date (except in rare cases like default). This gives bondholders certainty over future cash flows and reduces reinvestment risk.

Call Schedule

A list specifying the dates and corresponding prices at which a callable bond may be redeemed early by the issuer.

Face Value (Par Value)

The amount the bond issuer agrees to pay back at maturity, and the base amount for periodic coupon payments.

Coupon Rate

The annual interest rate paid on a bond's face value, determining the periodic coupon payment to bondholders.

Coupon Frequency

The number of times per year that coupon payments are made. Common intervals are Annual, Semiannual, Quarterly, or Monthly.

Day Count Convention

The method for calculating interest accrual between coupon dates, based on assumptions about days in periods and years (e.g., Actual/Actual, 30/360, Actual/360).

Business Day Convention

A rule for adjusting scheduled payment dates that would otherwise fall on weekends or holidays, such as:

- Following: move to the next business day.
- Modified Following: move to the next business day, unless that falls in a new month, then move to previous business day.

Calendar (Market Calendar)

Specifies which days are considered business days for a specific market (e.g., U.S., London, TARGET), used to determine correct settlement and payment dates.

Settlement Days

The number of business days between the trade date and the actual settlement date of a bond transaction.

Evaluation Date

The “as-of” date used for all pricing and risk calculations; all present values and risk measures are computed as of this date.

Clean Price

The quoted price of a bond excluding any interest that has accrued since the last coupon payment.

Dirty Price

The total price paid when buying a bond—clean price plus accrued interest (the settlement amount).

Discounting (Discount Curve)

The process and curve used to determine the present value of future bond cash flows, applying the appropriate interest rates for each period (e.g., FlatForward curve).

Yield to Maturity (YTM)

The annualized rate of return expected if the bond is held to maturity, assuming all payments occur as scheduled and coupons are reinvested at the same yield.

Yield to Worst (YTW)

The lowest yield an investor can expect if the bond is called (redeemed early) or matures—calculated by comparing yields for each potential redemption (call/maturity) date and choosing the lowest.

Duration

A measure of a bond's sensitivity to changes in interest rates. Key types:

- Macaulay Duration: The weighted average time (in years) until receipt of the bond's cash flows.
- Modified Duration: A risk metric estimating the percentage change in price for a 1% change in yield.

Effective Duration

The duration measure that accounts for changes in cash flows as yields change, especially relevant for bonds with embedded options (such as callable bonds); calculated using price changes from small parallel shifts in the yield curve.

Convexity

Measures the curvature in the price-yield relationship; essentially, how the duration of a bond changes as yields change. Higher convexity means the bond's price is less sensitive to interest rate increases and benefits more from rate decreases.

Accrued Interest

The interest accrued—but not yet paid—since the last coupon payment up to (but not including) the settlement date.

QuantLib Schedule

A QuantLib object that generates all future coupon/payment dates for a bond, factoring in issue/maturity, frequency, business day conventions, and calendar.

Pricing Engine (QuantLib)

A component in QuantLib that performs the core mathematical calculations for pricing (valuing) bonds and determining risk metrics. The most common is the DiscountingBondEngine for basic present value calculations.

Callability (QuantLib)

Refers to the logic and schedule (typically an object) that models the issuer's right to call a bond early; QuantLib automates calculations for all call dates and selects the "worst" for investor (lowest yield).

Flat Market Rate / Flat Yield Curve

A simplification where a single constant interest rate is used to discount all of a bond's future cash flows, rather than a term structure that varies over time.

Note:

These definitions are based on common use in Bloomberg Market Concepts and professional fixed-income analytics. They are intended to be clear for both financial and technical users, including those modifying or executing Python/QuantLib-based code.

If there are any additional terms or concepts in your workflow not covered here, let me know and I can expand the glossary!