

## Introduction to Fixed Income (IFI)

### Course Syllabus

#### 1. Fixed income markets

- 1.1 **Understand** the function of fixed income markets
- 1.2 **Know** the main fixed income market products:
  - Loans
  - Bonds
  - Money market instruments
- 1.3 **Know** the main fixed income market participants
  - Government and public sector issuers
  - Corporate issuers
  - Traders
  - Investors
- 1.4 **Know** the main bond market sectors
  - Domestic bond market
  - Foreign bond market
  - International securities (Eurobond) market

#### 2. Interest rates

- 2.1 **Calculate** present and future values using interest rates at different compounding frequencies
- 2.2 **Calculate** the effective annual rate that corresponds to a given nominal interest rate, and vice versa
- 2.3 **Know** the definition of a forward interest rate
- 2.4 **Understand** the difference between spot and forward interest rates
- 2.5 **Calculate** the implied forward rate that corresponds to given spot interest rates at different compounding frequencies

### 3. Money market instruments

- 3.1 **Know** the definition of a money market instrument
- 3.2 **Know** the main types of money market instruments and how they are used:
  - Cash deposits
  - Certificates of deposit
  - Treasury bills
  - Bankers' acceptances
  - Commercial paper
  - Sale and repurchase agreements (repo)
- 3.3 **Calculate** interest on a money market basis
- 3.4 **Calculate** the redemption amount at maturity on a cash deposit or certificate of deposit
- 3.5 **Understand** the difference between true discount instruments and discount-to-yield instruments
- 3.6 **Calculate** the settlement amount on a true discount instrument such as a Treasury bill for a given discount rate
- 3.7 **Calculate** the settlement amount on a discount-to-yield instrument such as a bankers' acceptance or commercial paper that is trading at a given yield
- 3.8 **Calculate** the yield on a true discount instrument
- 3.9 **Calculate** the yield that corresponds to a given discount rate and the discount rate that corresponds to a given yield
- 3.10 **Understand** the definition, calculation method, uses and limitations of the following money market interest rate fixings:
  - LIBOR
  - Euribor
  - EONIA
  - SONIA

#### 4. Bonds

##### 4.1 Understand the fundamental features of bonds

- Issuer
- Maturity
- Currency
- Nominal amount outstanding (issue size)
- Coupon
- Seniority and security
- Price
- Yield

##### 4.2 Know other features of bonds:

- Covenants
- Embedded options (e.g. call, put, conversion)

##### 4.3 Understand the main bond types:

- Fixed coupon
- Zero coupon
- Floating rate note (FRN)
- Inflation-linked
- Bonds with embedded options (e.g. callable, puttable, and convertible bonds)

#### 5. Bond prices and accrued interest

##### 5.1 Know how bond prices are quoted

##### 5.2 Understand the relationship between the clean and dirty price of a bond

##### 5.3 Understand the main day count conventions used to calculate accrued interest in bonds:

- Actual/Actual
- 30E/360
- 30/360
- Actual/365

##### 5.4 Calculate the accrued interest and dirty price of a bond, given its clean price, coupon rate, maturity date, settlement date and day count convention

##### 5.5 Calculate the settlement amount that will be paid for a specified nominal amount of a bond, given its dirty price.

**6. Bond price and yield**

- 6.1 **Understand** why bonds of similar credit quality and remaining maturity may trade at very different prices
- 6.2 **Know** the definition of yield to maturity
- 6.3 **Understand** the relationship between the price of a bond and its yield to maturity
- 6.4 **Calculate** the yield to maturity on a bond that is trading at a given price, given its settlement date, maturity date, coupon rate, coupon frequency and day count convention
- 6.5 **Calculate** the price of a bond that is trading at a given yield to maturity, given its settlement date, maturity date, coupon rate, coupon frequency and day count convention.

**7. Monetary policy and the yield curve**

- 7.1 **Know** the key objectives of monetary policy in major global markets and the central banks or other institutions responsible for setting and implementing this policy
- 7.2 **Know** the main targets and instruments of monetary policy in major global markets
- 7.3 **Understand** how central banks use open market operations to affect liquidity in the banking system
- 7.4 **Know** key elements of the monetary policy transmission mechanism
- 7.5 **Understand** why central banks resorted to quantitative easing and other unconventional methods of implementing monetary policy in response to the financial crisis
- 7.6 **Understand** why normalization of monetary policy (i.e. a return to higher interest rates) after the financial crisis may also require unconventional monetary policy methods

**8. Interest rate risk and bond trading strategies**

- 8.1 **Understand** why we construct interest rate risk measures
- 8.3 **Calculate** the basis point value (BPV) of a bond, given its price, settlement date, maturity date, coupon rate, coupon frequency and day count convention
- 8.4 **Calculate** the expected loss on a bond position of given nominal size for a one basis point change in interest rates (DV01), given the bond's basis point value
- 8.5 **Calculate** carry on long and short positions in bonds
- 8.6 **Calculate** forward breakeven price and yield for a bond over a given forward horizon, given the bond's coupon rate and the funding rate
- 8.7 **Understand** how to construct trades that express views about the level of interest rates and about the shape of the yield curve

**9. Introduction to interest rate derivatives and foreign exchange (FX) risk**

- 9.1 **Know** the basic features of fixed-for-floating interest rate swaps, tenor basis swaps and cross-currency basis swaps
- 9.2 **Understand** how fixed-for-floating swaps are used to construct asset swap margins and other relative value measures for fixed income securities in a single currency
- 9.3 **Understand** how tenor basis swaps and cross-currency basis swaps are used to construct relative value measures for bonds denominated in different currencies
- 9.4 **Understand** how constrained access to US dollar liquidity and other factors affect cross-currency basis swaps spreads and cross-currency relative value in fixed income markets
- 9.5 **Understand** how to assess the relative value of bonds denominated in different currencies

**10. Bond issuance, regulation and trading platforms**

- 10.1 **Know** the key stages in the auction processes by which sovereign debt is typically issued
- 10.2 **Know** the key stages in the underwriting and issuance of debt securities based on a fully negotiated price:
- 10.3 **Understand** why bonds have traditionally been traded in over-the-counter (OTC) markets in which dealers quote prices at which they are willing to buy and sell securities
- 10.4 **Understand** the market and regulatory factors driving the migration of bond trading to multi-user electronic trading platforms
- 10.5 **Know** the major fixed income trading platforms
- 10.6 **Know** the main channels through which investors hold bonds
- Individual bond portfolios
  - Pension funds and insurance companies
  - Bond mutual funds and unit trusts
  - Bond exchange-traded funds (ETFs)
  - Fixed income hedge funds
- 10.7 **Know** the main indices used as benchmarks in fixed income investing