

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