

Capital Markets ×7 Financial Products **Training Directory**

A complete range of cutting edge, practical courses specifically designed for practitioners by practitioners







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ASSET & LIABILITY MANAGEMENT

THE REGULATORY ENVIRONMENT FROM AN ALM PERSPECTIVE

- Background: Basel I & Basel II
- Basel III
- Liquidity
- Capital
- Leverage
- Systemic risk

CASE STUDY: MCKINSEY'S FIVE STEPS TO MORE EFFECTIVE GLOBAL RISK MANAGEMENT

- Core treasury activities
- Obstacles to expansion into emerging markets
- Strengthening governance
- The enhancement of treasury systems
- Improving the accuracy of cash flow forecasts
- Managing working capital globally

RISK MANAGEMENT

- Role of the treasurer
- Role of the CFO
- Role of the ALCO
- Functions of a treasury
- Centralising risk

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- Profit centres and cost centres
- Netting and in-house banks
- Importance of policies, procedures and risk management controls

INTERNATIONAL

CASE STUDY: RISK MANAGEMENT AT LUFTHANSA

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EXERCISE: DEFINING AND CATEGORISING DIFFERENT TYPES OF RISK

- Definitions of risk
- Asymmetrical risks
- Understanding the symmetry of market risks

EXERCISE: TESTING FOR LONG AND SHORT POSITIONS EXERCISE: EXPOSURE MANAGEMENT

USERS OF TREASURY PRODUCTS

- Borrowers
- Investors and wealth managers
- Commercial, investment and private banks

CASE STUDY: RISK MANAGEMENT AT APPLE

CASE STUDY: MCKINSEY - ASSET AND LIABILITY MANAGEMENT

- Recent trends in ALM
- Yield curve analysis
- Gap analysis
- Net interest income
- Duration gaps
- Economic value of equity
- Value at risk
- Setting and monitoring tolerance limits
- Optimising income and managing risk
- Typical practices in funds transfer pricing
- Managing liquidity risk
- Likely developments in ALM



CASE STUDY: HSBC - ALM GAPS

CASE STUDY: GOLDMAN SACHS - ALM

CASE STUDY: THE RULES OF RISK MANAGEMENT

- Return and risk
- Transparency
- Experience
- Known unknowns and unknown unknowns
- Communication
- Diversification
- Discipline
- Fraud, mismanagement, greed and corruption
- Common sense
- Case study: bank bosses must ensure honesty is best policy

CASE STUDY: FRAS, FUTURES AND INTEREST RATE SWAPS

- Buying and selling FRAs
- Selling and buying futures
- Paying and receiving fixed rates in the swap markets
- Perfect hedges and basis risk
- Contrasting exchange traded and OTC derivatives





INTERNATIONAL

CASE STUDY: HOW HEDGING WORKS

- Measuring interest rate risk
- Duration weighted hedging
- Balancing the hedge
- Hedge ratios
- Testing the hedge

CASE STUDY: FOREIGN EXCHANGE HEDGING IN THE FORWARD MARKET

- Relationship between spot and forward prices
- Approximate forward rates
- Hedging with forward contracts
- Motives for borrowers
- Motives for investors

CASE STUDY: HEDGING WITH EXCHANGE TRADED CURRENCY OPTIONS

CASE STUDY: NORDIC EXPORT CREDIT'S CURRENCY SWAP

- Fees and expenses
- Establishing the cash flows
- Plumbing diagrams
- All in fixed rate costs
- All in floating rate costs
- Initial payments and receipts
- Annual payments and receipts
- Dynamics of basis swap prices
- Hedging with basis swaps
- Cross default, pari passu and negative pledges



HOW GLOBAL INVESTORS TURN NEGATIVE JAPAN YIELDS INTO BIG RETURNS

- Record-low negative yields
- Discount offered to dollar holders to borrow yen
- Fixed coupon equivalent for owning five-year JGBs
- Foreign demand for Japan's two- and five- year bonds
- Cross-currency basis swaps
- Demand for dollars

CASE STUDY: PORTUGUESE TRAIN COMPANY CAN'T ESCAPE **SNOWBALLS**

- Managing financial risks
- Laying off risks with banks
- Laying off risks with customers
- Snowball interest rate swaps
- Calculating downside risks
- The view of the courts
- Legal and moral significance of hedging and trying
- Bank/customer relationships

EXERCISE AND DISCUSSION: KEY ISSUES IN ASSET & LIABILITY MANAGEMENT

CASE STUDY: OCBC & UOB - ALM





CASE STUDY: ASSET & LIABILITY MANAGEMENT - KEY OBSERVATIONS FOR ALCOS

- Key liquidity and funding metrics
- Understanding the EVE and NII results
- Role of economic forecasts
- Business lines and control function s and strategy
- Compliance with limits and planned future actions
- Accepting recommendations without debate or challenge
- Managing the agenda

MANAGING INTEREST RATE RISK IN THE BANKING BOOK

- Time value of money
- Future value and present value
- Implied repo rates
- Discount factors and compound factors
- Simple interest and compound interest
- Yield and return
- Act/act, act/360 and 30/360
- Interpreting the yield curve
- A guide to money market products
- Duration, PV01s and DV01s

CASE STUDY: USING DURATION AS A HEDGING AND AN ALM RISK **MANAGEMENT TOOL**





MANAGING INTEREST RATE RISK IN THE BANKING BOOK

- The mechanism of FRAs
- Calculating FRA rates
- Hedging and trading with FRAs
- Calculating the settlement amount
- FRAs and FX swaps
- Pricing forwards from FRAs
- FRAs and futures

CASE STUDY: CONTRASTING THE USE OF FRAS AND FUTURES IN ASSET & LIABILITY MANAGEMENT

EVE AND HEDGING

- Relating EVE to earnings
- EVE and estimated actual reported earnings
- What does EVE really reveal about future earnings
- Managing EVE
- Using EVE to alter future earnings
- Managing EVE when portfolios are not marketable
- Causes of sensitivity in EVE
- Hedging the risk in the sensitivity to EVE

EXERCISE: EVE AND HEDGING

SIMULATION: ASSET AND LIABILITY MANAGEMENT - EVE AND INTEREST **RATE SENSITIVITY**





LIQUIDITY COVERAGE RATIOS

- LCR calculation
- Stock of high quality liquid assets/buffer
- Levels one assets
- Level two assets
- Operational requirements
- Calculation of net cash outflows

CASE STUDY: HSBC LIQUIDITY RISK

CASE STUDY: CHALLENGES OF LIQUIDITY RISK MANAGEMENT AND THE LCR

SIMULATION: HEDGING DURATION GAPS

- The economic value of equity
- Positive and negative gaps
- Estimating changes in the economic value of equity

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- Durations of assets and liabilities
- Leverage adjusted duration gaps
- Hedging with forward contracts
- Hedging withe futures contracts
- Hedging with swaps
- Stress testing hedges
- EVE and duration gaps

CASE STUDY: HEDGING PITFALLS

- Status quo
- Taking a view
- Engaging with business partners
- Attitude to losses
- Balance sheet forecasting
- Volatility and liquidity management
- Spreadsheets
- The costs of FX trading
- ISDA and counterparty risk management
- Timing of FX results

CASE STUDY: HSBC - MARKET RISK

FUNDS TRANSFER PRICING

- What is FTP?
- Why do FTP?
- How do you do FTP?
- Pooled funding
- Multiple pooled funding
- Matched maturity method
- Refinement adding to the base cost
- FTP In practice
- What does the regulator want?
- What's the role of treasury?
- Are there pitfalls?
- Summary

CASE STUDY: EFFECTIVE FTP

SIMULATION: INTEREST RATE HEDGING AND MARKET-MAKING

- ALM hedging and market making simulation
- ALCO meeting
- Hedging, trading and market making session
- Protecting the bank's earnings
- Defining a strategy
- Managing interest rate risk
- Calculating the impact on net interest income

CASE STUDY: ALM LEHMAN BROTHERS

- Weaknesses in checks and balances
- Valukas Report
- Vulnerability to collapse
- Shadow banking systems
- Fundamental regulatory failure
- Flight risk
- Derivative exposures and market turmoil
- Significant exposures
- Risk limits
- Other contributory factors
- Key lessons





CASE STUDY: MULTI-CURRENCY ASSET & LIABILITY MANAGEMENT

- Identifying the exposure
- Cash market alternatives
- Forward outrights, FX swaps and currency swaps

CASE STUDY: HSBC - MARKET RISK

CASE STUDY: HSBC - NET INTEREST INCOME

BALANCE SHEET MANAGEMENT SIMULATION WORKSHOP

- Capital constraints
- Impact on ROE and RAROC
- ALM for capital markets
- ALM and balance sheet management under new basel and liquidity frameworks
- Management of RAROC and capital charge of treasury products under basel framework
- Liquidity constraints
- NII sensitivity
- Pillar 1 & pillar 2



BONDS & FIXED INCOME

HOW THE BOND MARKETS WORK

- Differentiating bonds and loans
- Standard clauses: pari passu provisions, negative pledges and cross default clauses
- Mark to market and accrual accounting
- How bond pricing works

CASE STUDY: Participants will examine a new international bond issue from the perspectives of the issuer, the arrangers and investors

PRICING PRINCIPLES

- Approximate and precise NPVs of trades
- The role of the bid/offer spread
- Intrinsic values, in-, out- and at-the-money prices
- Identifying the winner and the loser in a trade: symmetrical risk and asymmetrical risk products
- Day count conventions, accrued interest, clean and dirty prices
- IBORs and ARRs
- Brealey & Myers: the things we know and don't know about finance

EXERCISE: Estimating bond prices

CASE STUDY: Aramco - \$12 billion





BONDS AND FIXED INCOME MECHANICS

- Discounted cash flow
- Money market maths and capital markets maths
- Market conventions
- Calculating present and future values
- Implied repo rates and the cheapest-to-deliver bond
- Yield curve assumptions and their implications for bond pricing
- Calculating bond prices and yields in excel
- Annual, semi-annual and quarterly rates
- Market conventions and conversions

EXERCISE: Estimating the difference between semi-annual and annual rates at a glance

CASE STUDY: CVS \$40 billion M&A bond

PRACTICAL BOND PRICING TECHNIQUES

- What moves interest rates
- What influences yield curves
- A macro approach to pricing fixed rate bonds
- The value of one basis point for different maturities: PV01s and DV01s
- Inverse proportionality: prices and yields

EXERCISE: Haliburton 6.875% January 2028 (Excel)

YIELD CURVES

- Discounting with a single discount rate
- Assumptions inherent in interest compounding
- Calculating and interpreting internal rates of return
- All-in-costs and yields to maturity
- ICMAs rules 803.1 and 803.2
- Multiple discount rates
- Forward/forward rates and zero coupon curves
- Market expectations
- Liquidity preferences
- Market segmentation

EXERCISE: Straight line interpolations of the US Treasury curve

THE USE OF BENCHMARKS IN BOND PRICING

- Relative prices
- Government benchmarks
- Libor benchmarks
- Alternative reference rates
- Mid-swaps
- Sector benchmarks

CASE STUDY: Benchmarking corporate bonds to an interpolated curve

INTERNATIONAL

CASE STUDY: Benchmarking Apple and Verizon





INVESTMENT SKILLS

- Margins of safety
- The four most dangerous words in finance
- The role of patience
- The importance of contrariness
- Risk and the permanent loss of capital
- Leverage
- Understanding the detail of investment opportunities

EXERCISE: Seven immutable laws of investing & nine rules of risk management

AN INTRODUCTION TO CURVE TRADING

- How traders exploit changes in the shape of the yield curve
- How traders establish strategic curve trades
- Curve steepening trades
- Curve flattening trades
- Factors that influence the P&L of strategic curve trades
- Advanced strategic curve trades

EXERCISE :Curve flattening trades and curve steepening trades

CASE STUDY: Pricing a corporate bond

- The price and the yield of fixed rate bonds
- Liquidity risk
- Credit risk
- The spread to governments
- The spread to the interpolated swap curve
- The asset swap spread

THE BOND MARKETS TODAY

- An update on bond market liquidity
- The new issue market: global investment grade bonds
- The new issue market: high yield and emerging market bonds
- Basel III, the Dodd-Frank Act and the Volcker Rule
- Electronic trading: an update

CASE STUDY: Republic of Turkey 4.875% October 2026

PRICING FLOATING RATE NOTES

- Parallels with fixed rate bonds
- Discount margins, IRRs and yields to maturity
- Changes in the market
- Changes in the credit
- Using Bloomberg to price floaters
- Using a single discount rate
- Using multiple discount rates
- Forward rates and zero curves
- The relationship between swaps and floaters
- High yield floaters

CASE STUDY: FRN pricing - Pernod Ricard

BOND PORTFOLIO MANAGEMENT

- Measuring the risk in a portfolio
- Gauging the hedge

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• Interest rate risk management principles

INTERNATIONAL

- Adjusting portfolio duration
- Asset and liability management

CASE STUDY: Dynamically hedging a portfolio

CASE STUDY: The Republic of Austria 'century' bond

GETTING TO GRIPS WITH REPOS AND REVERSES

- Mechanics of repos and reverses
- Classic repo, buy/sell-backs and securities lending
- Parallels with FX swaps
- General collateral, specific repo, specials
- Current market developments in tri-party repo

CASE STUDY: The repo market

CASE STUDY: Green bonds

CONTINGENT CONVERTIBLE CAPITAL INSTRUMENTS

- Structure and design of CoCos
- Additional Tier-1 capital
- Triggers and loss absorption mechanisms
- CoCo issuance and investors in CoCos
- Factors influencing the size of the CoCo investor base
- Primary market pricing and secondary market trading of CoCos

CASE STUDY: Understanding the CoCo market

CASE STUDY: ETFs

CASE STUDY: How Global Investors Turn Negative Japan Yields Into Big Returns

- Record-low negative yields
- Discount offered to dollar holders to borrow yen
- Fixed coupon equivalent for owning five-year JGBs
- Foreign demand for Japan's two- and five-year bonds
- Cross-currency basis swaps
- Demand for dollars

USING DURATION AS A HEDGING AND TRADING TECHNIQUE

- Risk and interest rate sensitivity
- Calculating the present value of one basis point
- Using Macaulay's duration
- Using modified duration
- Duration, PV01s and DV01s
- The additivity of duration

EXERCISE: Using duration to calculate hedge ratios; curve trading

MANAGING INTEREST RATE RISK

- The importance of risk management
- Measuring interest rate risk: subjective and objective risk measures
- Fixed and floating rate interest rate risk
- Delta and the first derivative

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- Gamma and the second derivative
- Macaulay duration and modified duration
- Interest rate movements: capital losses and income gains
- Break-even analysis and time-weighted average of discounted cashflows

INTERNATIONAL

SENSITIVITY OF DURATION FOR DIFFERENT BONDS TO MATURITY, COUPON AND YIELD

- Time decay of duration
- Price-yield relationship and approximation of price changes
- Convexity, gamma and the second derivative
- Estimating convexity and measuring convexity
- Static and dynamic hedging

INTEREST RATE DERIVATIVES

- Basel Regulation
- The balance sheet
- Capital adequacy requirement
- The Basel accord, Basel II and Basel III
- Off -balance sheet instruments and interest rate derivatives
- Credit risk
- Market risk
- Liquidity ratios
- Leverage ratio
- Interest rate, currency and credit default swaps
- The swap mechanism
- The uses of swaps and other derivatives
 - Speculation
 - Hedging and asset & liability management
 - Market making
 - Risk management
 - Arbitrage
 - Debt origination
 - Asset swaps
 - Benchmarking

- Interest rate risk management with swaps compared to other interest rate derivatives
- Swaps and futures
 - Swaps and FRAs
 - Swaps caps, floors and collars

CASE STUDY: Asset management

- Blackrock and Blackstone
- Active and passive fund management, leverage
- Wealth creation for clients and shareholders
- Influencing the markets

USE STRIPS AS A BENCHMARK FOR PRICING NON-STANDARD BONDS

- Pricing Bonds revisited
- UST STRIPS (POs and IOs)
- Stripping and reconstituting bonds
- Pricing examples

TERM STRUCTURE OF INTEREST RATES

- The yield curve
- The par curve
- The zero curve
- Bootstrapping
- Calculating the zero rates
- The forward curve
- Three approaches for calculating the implied forward rates
- Creating a term structure of interest rates
- The use of par rates



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CASE STUDY: Working out the term structure of interest rates

- Selecting the yield curve
- Bootstrapping
- Building a zero-coupon curve
- Implying the forward rates
- Summarising the forward rates

CASE STUDY: Debt origination

- Issuing bonds under the fixed price re-offer
- Syndication
- Book building
- Pot deals
- Setting the re-offer spread
- Finding the re-offer yield
- Issue price
- All-in-costs to borrower
- Spread over treasuries
- Adding the swap and reaching sub-Libor funding

LIABILITY SWAPS AND THE BOND MARKETS

- Debt origination
- Fixed rate bonds vs. Floating Rate Notes (FRNs)
- Arbitrage possibilities
- The benefit of swaps
- The swap window of opportunity
- Sub-Libor funding for prime borrowers

ASSET-BACKED SECURITIES

- Collateralised Mortgage Obligations (CMO)
- Receivables (CARDs), (CARs) etc
- Credit-linked Notes (CLN)
- Re-securitisation
- Asset-Backed Commercial Paper (ABCP)
- Wrapped bonds
- Covered bonds

ASSET SWAPS AND BOND MARKETS

- The drivers of the asset swap market
- The different asset swap structures

SWAP PRICING

- The cash flow
- Determining the value of the variable cash flow
- The swap pricing condition
- Determining the rate of the fixed cash flow

SWAP VALUATION

- Valuation of the floating rate leg
- Valuation of the fixed rate leg
- Determining the net present value (NPV)





CASE STUDY: Asset swap pricing and valuation

- Pricing an asset swap for par bonds
- Pricing an asset swap for premium bonds
- Pricing an asset swap for discounted bonds
- Comparing asset swap spread to z-spread

CREDIT CURVES, BENCHMARKING AND CORPORATE BOND SPREADS

- The swap rate as key part of the term structure of interest rates
- How it all fits together
- Spread over government bonds
- Spread over the (interpolated) swaps curve
- CDS spread
- Coupon spread
- Libor spread
- Asset swap spread
- Asset swap margin
- Z-spread

VALUE ADJUSTMENTS TO SWAPS PRICING

- Monte Carlo simulation of future swap values
- Credit value adjustment
- XVA: value adjustments for credit, funding, margin and capital
- Collateral posting



BOND FUND MANAGEMENT

BONDS MARKET

- Bond markets government, corporate and international
- Credit Rating of Bonds and Issuers
- Origination, syndication and pricing of issues
- Bond Types
- Transition, Green and ESG bonds explained
- Grading Green Bonds
- Trading bonds domestically and international
- Bond settlement prices and accrued

OVERVIEW OF A PORTFOLIO

- The concept of a portfolio with bonds
- Portfolio objectives defined
- Diversification and risk management
- Passive and Active bond market strategies

BOND RISKS EXPLAINED, PORTFOLIO RISKS EXPLAINED

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- Price risk
- Credit risk
- Economic risk
- Currency risk
- Structured portfolio risk
- Bond and portfolio duration explained
- Convexity in a portfolios

BOND SWITCHING

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• The rationale for buying//selling bonds

- Comparative price performance
- Duration matched switching

BOND MARKET YIELD CURVES

- Principal market yield curves explained
- Overview of yield curve construction
- Yield curve movements (swings)
- Price implications for curve swings

HEDGING A BOND PORTFOLIO

- Different strategies examined
- Bond derivatives
 - Bond Futures
 - Bond Options
 - Interest rate swaps
- Using the derivatives to hedge a comparison

BOND PORTFOLIO PERFORMANCE

- Benchmarking a portfolio
- Tracking errors
- Performance attribution analysis

BOND CREDIT RATING (RISK)

- Rating issuers and rating bonds
- Comparing credit grades
- Upgrades/downgrades in perspective

ESG BOND RATING

- The rating of ESG bonds limited global standards
- Transition Bonds explained
- Green bond grading
- 2nd Party Opinions and monitoring

BOND TRADING & VALUATION

THE CASH FLOW APPROACH

- Interbank loans and deposits
- Bonds
- Floating Rate Notes (FRN's)

REFRESHER ON INTEREST RATE ARITHMETIC

- Simple interest formula for Money Markets
- Compound interest formula for Capital Markets
- Discount and compound factors
- Yield and return

CALCULATOR EXERCISES

- Long-hand Calculations
- Transfer to Excel
- Time Value of Money Function (TVM)
- Bond Function (BOND)

REFRESHER ON THE TERM-STRUCTURE OF INTEREST RATES

- Yield curve
- Par curve
- Zero curve
- Forward curve
- Swap curve

CREDIT CURVES

• Sovereign Credit Curves

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- Municipality Credit Curves
- Supranational Credit Curves
- Credit Curves for Banks and Financial Institutions

INTERNATIONAL

BOND PRICING REVIEW: DISCOUNTING FUTURE CASHFLOWS

- Yield to maturity
- Using zero rates
- Using forward rates

ASSESSING BOND RISK

- The meaning of duration
- DVO1
- Calculation of duration
- Convexity

HEDGING CORPORATE CREDIT (PDS) WITH GOVERNMENT BONDS

- Credit spreads
- Interest rate hedging
- Duration matching
- Exercise:
 - Selecting a government bond
 - Working out the hedge ratio
 - Setting up the trade
 - Closing out the trade
 - Hedge analysis

BOND TRADING & VALUATION continued

TRADING GOVERNMENT BOND SPREADS

- Time or calendar spreads
- TED spread
- Currency spreads
- Using bond futures
- Using interest rate futures
- Exercise:
 - Selecting the spread
 - Working out the hedge ratio
 - Setting up the trade
 - Closing out the trade
 - Hedge analysis

TRADING CORPORATE VERSUS GOVERNMENT BOND SPREADS

- Credit Spreads
- Time or Calendar Spreads
- Currency Spreads
- Combinations
- Exercise:
 - Selecting the combination spread
 - Working out the hedge ratio
 - Setting up the trade
 - Closing out the trade
 - Hedge analysis





PORTFOLIO SWITCHING

- Trading Interest Rate Risk in a Bond Portfolio
- Ridding the Curve
- Exercise:
- Selecting a target duration
- Working out the current portfolio duration
- Switching the portfolio allocation
- Working out the new portfolio duration
- Adjusting the duration

REPOS

- The mechanism
- The relevance for forward bond pricing

BOND FUTURES

- Physical delivery
- Exchange delivery price
- Cheapest-to-deliver

MEASURING CORPORATE BOND CREDIT RISK

- Spread to government bonds
- Spread to interpolated swap curve
- Asset swap spread
- Libor spread
- Libor curve (forward curve) spread
- Z-spread
- CDS spread

DERIVATIVES VALUATION & PRICING

INTERFACE OF MONEY MARKETS AND FOREIGN EXCHANGE

- Issuance of Treasury instruments, repos
- LIBOR rates currencies and maturities, market fix post rigging scandal
- Treasury bill issuance in different jurisdictions calculating yields etc.
- The mechanics of the repo market
- FX daily volumes, liquidity of G10 currencies, exotic currencies
- Forward rates for interest rate and FX
- Arbitrage and interest rate parity
- Current market conditions policy rates, macro-economic background
- Risk premia, key money markets spreads and currency outlook

REFRESHER ON VALUATION AND MODELLING TECHNIQUES

- Dispersion percentiles, quartiles, inter-quartile range
- Variance standard deviation illustration with respect to asset price returns
- Volatility measurement square root of time
- Correlation and coefficient of determination R2

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- Linear Regression interpretation of metrics, standard error etc.
- Stochastic calculus random walk
- Characteristics of a Normal distribution basis for estimation of probabilities
- Examination of fat tails in financial returns data, meaning of leptokurtosis
- Value At Risk explanation of parametric VaR, benefits/limitations

CURVE MODELLING TECHNIQUES

- Drift, stochastic factors and mean reversion tendencies
- Vasicek and CIR models for modelling evolution of short-term rates
- Market volatility as primary risk factor variance forecasting
- Parallel and non-parallel shifts in the yield curve
- Principal Components Analysis for modelling changing shape of term structure
- Volatility modelling EWMA and GARCH techniques
- Term structure modelling with Nelson-Siegel model

INTEREST RATE SWAPS AND HEDGING INSTRUMENTS

- Pricing the fixed leg and interpreting the swap markets
- Contrast money market rates and IR swap rates
- CVA as integral part of fair value/pricing of derivatives as well as a regulatory (Basel) matter
- Collateralized OTC trades versus margin based CCP platforms
- Netting arrangements explanation of mechanism, close out risks
- Interest rate futures short term and long term instruments
- Eurodollar (USD 3 month LIBOR) and Euribor futures market
- Options on IR futures to create floors, collars
- Conversion factors and cheapest to deliver concepts
- Possible replacements for the Libor benchmark rates



DERIVATIVES VALUATION & PRICING continued

NON-GENERIC SWAPS – STRUCTURING AND PRICING

- Forward start swaps structures and pricing
- Contrast between amortising and roller coaster swaps
- Constant Maturity swaps shape of yield curve considerations
- Total Return swaps encapsulating income and capital appreciation/depreciation
- Re-structuring portfolio cash flow characteristics using inflation swaps
- Combining conventional government bond and an IL swap

FUNDAMENTALS OF VOLATILITY

- Market volatility as primary risk factor variance forecasting
- Explanation of the mechanics and usefulness of the CBOE VIX Index
- Options pricing theory Black Scholes, binomial tree methods
- Overview of the "greeks"– delta and gamma, volatility
- Explanation of dynamic delta hedging shortcuts for option hedges, Taylor Series
- Volatility modelling EWMA and GARCH techniques
- Scaling returns and volatility over time how reliable is it?

MECHANICS OF OPTIONS

- Transaction framework/schematic of an option
- Different styles European, American, Bermudan, Asian
- Rights and obligations of the buyer and seller within an option contract
- Role of the central clearing party (CCP) for exchange traded options
- Contrast clearing and settlement for OTC options counter party risk
- Key exchange traded option characteristics strikes, maturities, contract size



- Differences between options on equities, FX, options on futures
- Time value versus Intrinsic value
- In-the-money, out-of-the-money and at-the-money

BLACK SCHOLES MERTON MODEL FOR OPTION PRICING AND THE GREEKS

- How premium is determined Black Scholes Merton model
- Reliance on normal distribution assumptions
- Risk neutral versus real world pricing
- Alternative pricing models binomial trees
- Understanding of main characteristics of the "greeks"
- Barrier options, Quanto options, other exotic options
- Explanation of delta and dynamic hedging
- Options strategies strangles and straddles, when to use them, risks
- Volatility smile what is it and why does it illustrate a flawed methodology?

CHANGES IN CORRELATIONS, LIQUIDITY AND VOLATILITY

- Random walks and the assumption of continuous trading
- Risk premiums and risk neutrality
- Impact on derivatives pricing and mark to market
- Risk capital/regulatory capital and illiquidity
- Close relationship between correlation, liquidity and volatility
- Predicting volatility changes: GARCH models
- The perspective from implied volatility
- Implied probability distribution and tail risk

DERIVATIVES VALUATION & PRICING continued

ALTERNATIVE MODELS FOR OPTION PRICING

- Binomial tree models
- Backward induction techniques
- Continuous time modelling and discretization techniques
- Replacing the constant volatility assumption within Black Scholes model
- Heston volatility modelling
- Updating implied volatility inputs for volatility regime switches

CREDIT DEFAULT SWAPS

- Terminology protection buyer/seller, reference entity,
- Naked CDS positions questions of insurable interest
- Equating actual and contingent payments spread calculation
- Inputs to model default probabilities, LGD, forward curve
- Sovereign and corporate markets depth, users
- Single name CDS versus basket products, nth to default structures
- Determination of a credit event default, moratorium, re-structuring
- ISDA protocols standardized coupons, up-front fees, CSA

CASE STUDY – AIG AND THE 2007/8 MORTGAGE BACKED SECURITIES COLLAPSE

- Explanation of the collapse of the MBS market in the US in 2007/8
- Impact on Bear Stearns, Lehman Brothers, Fannie Mae
- Correlation of credit risk exposures Wrong Way Risk
- Rationale for Basel III focus on CVA





FX OPTIONS

- Structure of an FX option
- Modifications to the BSM model for pricing FX options
- FX barrier options
- Interest rate differentials
- Dynamic delta hedging for a short FX option position

CROSS CURRENCY BASIS SWAPS

- Full Explanation of the structure of XCCY swaps
- Interpretation of the basis
- Arbitrage opportunities
- Critical examination of the EUR/USD XCCY basis in 2008 and 2011/12
- Implications for banking system of significant negative basis

COLLATION OF VALUATION AND RISK ISSUES

- Summary of main derivative applications in banking
- Essential tools for pricing and valuation of derivatives
- Modelling tools their benefits and their limitations
- Overview of the key regulatory initiatives with respect to the risk of financial derivatives



FINANCIAL DERIVATIVES MASTERCLASS

OVERVIEW OF DERIVATIVES AND KEY UNDERLYING MARKETS

- Overview of the size of derivatives markets
- BIS statistics on total swaps outstanding
- Contractual assets that perform in accordance with underlying asset class behaviour
- Explanation of delta one derivatives and those with non-linear payoffs
- Legal framework, ISDA, Clearing, Initial Margin and Variation Margin
- Historical origins of the futures markets
- Risk elements of derivatives
 - Counterparty risk, basis risk, liquidity risk
 - Central clearing versus counterparty risk
- Nature of forward contracts including Non-Deliverable Forwards
- Interest rate products and related money market instruments
- Bond futures markets US Treasury, UK Gilt, Bund, JGB's
- Short term interest rate contracts

FUTURES AND FORWARDS

- Key characteristics of futures contracts obligations, contract sizes, settlement issues
- Contrast with forwards customizable, counterparty risk
- Using FX forwards for hedging foreign exchange risk
- Summary of the variety of global futures contracts available
 - Eurodollar, Treasury bond futures, short term interest rates
 - Stock index futures S&P 500, FTSE 100, DAX, Nikkei etc.
 - Commodity futures WTI, Brent, Gold, Copper, Soybeans etc.
 - Contract specifications tick size, contract size, delivery dates





- Order types accepted by the markets market orders, limit orders
- Clearing and settlement mechanisms margin, mark to market
- Novation and the role of a central counterparty (CCP)
- Contango and backwardation

HEDGING WITH FUTURES – COMMODITIES, EQUITIES AND BONDS

- Explanation of basis risk in commodities markets
- Cash settlement or physical delivery
- Calculation of fair value cost of carry
- Perspectives of commercials and speculators
- Commitment of Traders Reports from large exchanges
- Hedge ratios calculations and implementation
- Creating hedges for crude oil exposures
- Creating hedges for exposure to equities portfolio beta
- Refresher on fixed income mathematics duration, convexity, BPV
- Calculating the BPV of a bond portfolio
- Basis risk with fixed income futures instruments
- Using conversion factors for instruments within a cash bond portfolio
- Calculation of the BPV of an extant Treasury bond futures contract
- Determining the Cheapest to Deliver (CTD) bond against a futures contract



FINANCIAL DERIVATIVES MASTERCLASS continued

INTEREST RATE SWAPS AND HEDGING INSTRUMENTS

- Pricing the fixed leg and interpreting the swap markets
- Contrast money market rates and IR swap rates
- CVA as integral part of fair value/pricing of derivatives as well as a regulatory (Basel) matter
- Collateralized OTC trades versus margin based CCP platforms
- Netting arrangements explanation of mechanism, close out risks
- Interest rate futures short term and long-term instruments
- Eurodollar (USD 3-month LIBOR) and Euribor futures market
- Options on IR futures to create floors, collars
- Conversion factors and cheapest to deliver concepts
- Replacements for the Libor benchmark rates

NON-STANDARD SWAPS

- Forward start swaps structures and pricing
- Swaptions when to use them
- Contrast between amortising and roller coaster swaps
- Constant Maturity swaps shape of yield curve considerations
- Total Return swaps encapsulating income and capital appreciation/depreciation
- Re-structuring portfolio cash flow characteristics using inflation swaps
- Combining conventional government bond and an IL swap

CREDIT DEFAULT SWAPS

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- Terminology protection buyer/seller, reference entity,
- Naked CDS positions questions of insurable interest
- Contrast between a CDS and a financial insurance contract
- Equating actual and contingent payments spread calculation

INTERNATIONAL

- Inputs to model default probabilities, LGD, forward curve
- Sovereign and corporate markets depth, users
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MECHANICS OF OPTIONS

- Transaction framework/schematic of an option
- Different styles European, American, Bermudan, Asian
- Rights and obligations of the buyer and seller within an option contract
- Role of the central clearing party (CCP) for exchange traded options
- Contrast clearing and settlement for OTC options counter party risk
- Key exchange traded option characteristics strikes, maturities, contract size
- Differences between options on equities, FX, options on futures
- Time value versus Intrinsic value
- In-the-money, out-of-the-money and at-the-money





FINANCIAL DERIVATIVES MASTERCLASS continued

FUNDAMENTALS OF VOLATILITY

- Market volatility as primary risk factor variance forecasting
- Explanation of the mechanics and usefulness of the CBOE VIX Index
- Options pricing theory Black Scholes, binomial tree methods
- Overview of the "greeks"– delta and gamma, volatility
- Explanation of dynamic delta hedging shortcuts for option hedges, Taylor Series
- Volatility modelling EWMA and GARCH techniques
- Scaling returns and volatility over time how reliable is it?

BLACK SCHOLES MERTON MODEL FOR OPTION PRICING AND THE GREEKS

- How premium is determined Black Scholes Merton model
- Reliance on normal distribution assumptions
- Risk neutral versus real world pricing
- Alternative pricing models binomial trees
- Understanding of main characteristics of the "greeks"
- Barrier options, Quanto options, other exotic options
- Explanation of delta and dynamic hedging
- Options strategies strangles and straddles, when to use them, risks
- Volatility smile what is it and why does it illustrate a flawed methodology?





DERIVATIVES MASTERCLASS FOR RISK MITIGATION

ESSENTIALS OF INTEREST RATE RISK

- Time value of money, zero coupon curves, discount factors
- Bond duration, convexity, Macaulay Duration, Modified Duration,
- Calculating Basis Point Value (BPV)
- Drivers of short-term rates central bank policy rates, ECB rates, Fed funds rate
- Factors that influence longer-term rates macro-economic variables, CPI, fiscal policy etc.
- Historical examples of different shapes to the yield curve
- Explanation of the term structure of interest rates the yield curve
- Credit spreads over Treasuries, over LIBOR, Z spread
- Swap spreads which curves to use, OIS, LIBOR
- Unorthodox monetary policy including QE origins, recent history, mechanics
- Economic rationale for QE and NIR
- Overview of current policy of the European Central Bank

BEST PRACTICE IN MARK TO MARKET FOR FINANCIAL PRODUCTS AND FUNDING INSTRUMENTS

- Fair value accounting (IFRS 9 and 13) and mark to market best practice
- Trading book exposures levels 1, 2 and 3 exposures
- Impact of interest rate changes on balance sheet bonds, money market instruments, derivatives
- Feedback loops between market risk, credit risk and liquidity risk
- Value at Risk (VaR) a single measure of enterprise risk
- Explain the differing methodological principles for calculating VaR
- Benchmark rates distinguish types and suitability for different purposes/objectives





INTERNATIONAL

MONEY MARKETS AND FOREIGN EXCHANGE

- Size of the markets size of outstanding derivatives, FX daily volumes
- Participants commercial banks, central banks, corporates, government agencies
- Treasury bill issuance in different jurisdictions calculating yields etc.
- Detailed analysis of the mechanics of repo markets, commercial paper
- LIBOR and EURIBOR rates currencies and maturities,
- Eurodollar futures market
- Forward Rate Agreements for interest rate and FX
- Arbitrage and interest rate parity
- Current market conditions policy rates, macro-economic background
- Risk premia, key money market spreads and currency outlook

MANAGING FOREIGN EXCHANGE RATE RISK – FORWARDS AND SWAPS

- How forward rates are determined interest rate differentials
- Hedging foreign exchange risk
- Rationale and motivations for using FX forwards
- Using FX forwards to manage exchange rate risk
- Tracker Forwards, Forward Extras pricing and cost/benefit analysis
- Structured FX products how structuring and pricing works, usage
- Target Redemption Forwards mechanics and why clients find them useful
- Non deliverable forwards
- Pricing of the legs of a vanilla FX swap
- Cross currency basis swaps XCCY
- Pricing the alpha spread
- XCCY spreads as indicator of market conditions







DERIVATIVES MASTERCLASS FOR RISK MITIGATION continued

DERIVATIVES AND UNDERLYING MARKETS

- Overview of the size of derivatives markets
- Contractual assets that perform in accordance with underlying asset class behaviour
- Explanation of delta one derivatives and those with non-linear payoffs
- Legal framework, Clearing, Initial Margin and Variation Margin
- Risk elements of derivatives
 - Counterparty risk, basis risk, liquidity risk
 - Central clearing versus counterparty risk
- Nature of forward contracts including Non-Deliverable Forwards
- Interest rate products and related money market instruments
- Bond futures markets US Treasury, UK Gilt, Bund, JGB's
- Short term interest rate contracts

INTEREST RATE SWAPS

- Basic structures and terminology of swaps
- Business case for using interest rate swaps
- Notion of swap as an aggregation of forward rate agreements
- Pricing the fixed leg and interpreting the swap markets

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- Counter party risk default, deterioration of creditworthiness, CVA
- OTC market versus SEF's future outlook for mix between different platforms
- Collateralized OTC trades versus margin based CCP platforms
- Netting arrangements explanation of mechanism, close out risks

EXCHANGE-TRADED FUTURES

- Key characteristics of futures contracts obligations, contract sizes, settlement issues
- Summary of the main exchanges and platforms
- Summary of the variety of global futures contracts available
- Eurodollar, Treasury bond futures, short term interest rates,
- Stock index futures S&P 500, FTSE 100, DAX, Nikkei etc.
- Commodity futures WTI, Brent, Gold, Copper, Soybeans etc.
- Contract specifications tick size, contract size, delivery dates
- Calculation of fair value cost of carry
- Order types accepted by the markets market orders, limit orders
- Clearing and settlement mechanisms margin, mark to market
- Novation and the role of a central counterparty (CCP)
- Cash settlement or physical delivery

APPLICATION OF OPTIONS IN HEDGING

- Transaction framework/schematic of an option
- Rights and obligations of the buyer and seller within an option contract
- Role of the central clearing party (CCP) for exchange traded options
- Contrast clearing and settlement for OTC options counter party risk
- Key exchange traded option characteristics strikes, maturities, contract size
- Differences between options on equities, FX, options on futures
- Time value versus Intrinsic value



DERIVATIVES MASTERCLASS FOR RISK MITIGATION continued

- In-the-money, out-of-the-money and at-the-money
- How premium is determined Black Scholes Merton model
- Alternative pricing models binomial trees
- Understanding of main characteristics of the "greeks"
- Barrier options, Bermuda options, Asian options, Quanto options
- Explanation of delta and dynamic hedging
- Options strategies strangles and straddles, when to use them, risks
- Volatility smile what is it and why is it important?

FUNDAMENTALS OF CREDIT RISK

- Define credit risk and situate this within context of financial risks in general
- Default, deterioration in credit worthiness, expected and unexpected losses
- Explanation of the key credit risk metrics
 - Probability of default (PD)
 - Exposure at default (EAD)
 - Loss given default (LGD)
- Measurement of credit risk
- Distinguish between types of credit risk
 - Sovereign, Corporate, Retail, Systemic

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- Concentration risk focus on cross exposures of G-SIB's
- Market and credit risk can they be separated into discrete categories?
- Overview of the key metrics employed in the regulatory framework
- Outline of different exposures within credit risk under the Basel Approaches

DRIVERS OF COUNTER-PARTY CREDIT RISK (CCR)

- Separating market risk impact on trading positions from CCR
- Pricing counterparty risk use of spreads, ratings
- Probability of Default (PD) estimation of PD and Exposure at Default (EAD)
- Expected positive exposure (EPE)
- Loss Given Default (LGD) and recovery rates
- Counterparty risk in credit default swaps
- Counterparty risk in interest rate swaps
- The role of a central clearing house
- Stress analysis and randomized stress scenarios
- Market factors which drive counter-party credit deterioration

CREDIT DERIVATIVES AND RISK MANAGEMENT

- How can credit derivatives be useful in managing credit risk
- Credit default swaps, single and multiple name
- Issues with CDS, basis, ISDA documentation
- Credit Support Annex (CSA) improvements since 2008 crisis
- Correlation issues
- Joint default probabilities
- Advanced topics in assessing default probabilities including copula methods
- Pricing and risk issues



DERIVATIVES MASTERCLASS FOR RISK MITIGATION continued

ISSUES ASSOCIATED WITH XVA AND REPLACING LIBOR RATES

- Background to the post GFC regulations around counter-party risk and CCP's
- Overview of margin practices in the OTC and CCP worlds
- Credit Valuation Adjustment (CVA) reflection of counter-party credit risk
- Debit Valuation Adjustment (DVA) reflection of own credit risk
- Funding Valuation Adjustment (FVA) differential costs associated with funding collateral
- Capital Valuation Adjustment (KVA) recognition for regulatory capital requirements
- Margin Valuation Adjustment (MVA) costs for initial and variation margin for CCP clearing
- Background to the regulator's desire to replace LIBOR the LIBOR rigging scandal
- Legacy issues related to the fact that \$350 trillion of notional references IBOR rates
- Which rates to use riskless rates or market rates
- Bank of England White Paper on adoption of SONIA for sterling-based markets
- Explanation of the SOFR rate in the US money market





EQUITY DERIVATIVES APPLICATIONS

PURPOSE OF DERIVATIVES

- What is the rationale for using derivatives?
- Analysis of price behaviour of derivatives in relation to behaviour of underlying assets
- Leverage issues with derivatives amplification of gains and losses
- Contractual assets that facilitate hedging
- Contrast between delta one derivatives and those with non-linear payoffs
- Legal framework, ISDA, Clearing, Initial Margin and Variation Margin
- Differences between an equity derivative and a cash equity and how they affect the bank's P&L
- Risk elements of derivatives
- Counterparty risk, basis risk, liquidity risk
- Central clearing versus counterparty risk

REFRESHER ON VALUATION AND MODELLING TECHNIQUES

- Dispersion percentiles, quartiles, inter-quartile range
- Variance standard deviation illustration with respect to asset price returns
- Volatility measurement square root of time
- Importance of correlation in determining portfolio volatility
- Characteristics of a normal distribution basis for estimation of probabilities
- Examination of fat tails in financial returns data
- Value at Risk historical and parametric VaR, benefits/limitations

EXERCISE

Using an Excel Model for understanding the basics of Monte Carlo simulations. Exploring the space of combinatorial possibilities





INTERNATIONAL

TYPES OF EQUITY DERIVATIVES

- Futures on equities and stock index availability, features, market depth, liquidity
- Explain the key contrasts between exchange traded versus OTC derivatives
- Options on individual equities and equity indices
- Option styles of exercise/pricing American, European, Asian style
- Users, motivations and pay-off characteristics
- Equity swaps and index products
- Warrants and covered warrants
- Explanation of the mechanics of a CFD
- Mechanics of convertible bonds issuance, pricing

MECHANICS OF EQUITY OPTIONS

- Transaction framework/schematic of an option
- Different styles European, American, Bermudan, Asian
- Rights and obligations of the buyer and seller within an option contract
- Role of the central clearing party (CCP) for exchange traded options
- Contrast clearing and settlement for OTC options counter party risk
- Key exchange traded option characteristics
- Differences between options on equities, FX, options on futures
- Quotations based on implied volatility and deltas

FUNDAMENTALS OF VOLATILITY – HISTORICAL AND IMPLIED

- Market volatility as primary risk factor variance forecasting
- Explanation of the mechanics and usefulness of the CBOE VIX Index
- Basics of volatility modelling
- Scaling returns and volatility over time how reliable is it?
- Volatility smile

EQUITY DERIVATIVES APPLICATIONS continued

BLACK SCHOLES MERTON MODEL AND THE GREEKS

- How premium is determined Black Scholes Merton model
- Reliance on normal distribution assumptions
- Risk neutral versus real world pricing
- Understanding of main characteristics of the "greeks"
- Explanation of delta, gamma, rho, theta, vega
- Characteristics of barrier options pricing, risks to sellers and buyers
- Explanation of delta and dynamic hedging
- Strangles and straddles, when to use them, risks
- Volatility smile what is it and why does it illustrate a flawed methodology?
- Alternative pricing models binomial trees

CASE STUDY

Excel workbook showing the Black Scholes Merton model and how the greeks are calculated

EXCHANGE TRADED PRODUCTS

- Contrast features of ETF's to mutual funds and investment trusts
- Mechanics, how do they make money?
- Volatility and Variance swaps mechanics, structuring, implied and realized volatility
- Rationale for volatility/variance swaps as hedging instruments
- Exposure to pure volatility as opposed to directionality, tail risk protection
- Cross-sectional correlation of equity returns and impact on structured products





EQUITY BASED RETAIL STRUCTURED PRODUCTS

- Elements in the life cycle of a structured product
- Examination of market/users of retail structured products, risk/rewards
- Valuation and yield characteristics of retail structured products
- Fund managers can achieve portfolio diversification through weakly correlated instruments/strategies
- MIFID II rules regarding structured products

CASE STUDY

Detailed examination of a structured product within the Barclay System How does the product manager hedge the bank's exposure and manage the P&L?

MECHANICS OF EQUITY BASED SWAPS

- Rationale for swaps in general and equity based
- Explanation of how legs of swaps are calculated
- Cash flow analysis and the equality of present values for each legs of a swap
- Initial swap pricing
- Mark to market issues collateral and margin







ECONOMICS & FINANCIAL MARKETS

AN OVERVIEW ON FINANCIAL MARKETS

- The Importance of cash flows as the underlying principle of any financial instrument
- Money Markets versus Capital Markets

LOANS - THE MACROECONOMIC ALLOCATION OF CAPITAL

- The Structure of an Investment Bank
- The Players in Investment Banking

THE ROLE OF BANKS AS INTERMEDIARIES BETWEEN BORROWERS AND **INVESTORS**

- The Interplay between Origination, Sales and Trading
- Syndication of New Issues
- Asset Classes

CAPITAL MARKETS REGULATION

- Capital Adequacy Requirement
- The Bale Accord of 1988
- Basel II (2005)
- Basel III (2013)
- Source for New Product Development

TIME VALUE OF MONEY AND FINANCIAL ARITHMETIC

- Value of Money over Time
- Reasons for the Change of Value of Money over Time
- A Definition of Interest Rates



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FINANCIAL ARITHMETIC AND MARKET CONVENTIONS

- Money Market Formulas (Simple Interest)
- Capital Market Formulas (Compound Interest)
- Interest Rate Conversions
- Market conventions
- Payment date conventions and how it affects the settlement date

MONEY MARKETS

- Development of Money Markets
- Money Market Instruments
- Forward Interest Rates

FOREIGN EXCHANGE (FX)

- Spot FX
- Forward FX
- FX Swaps

CAPITAL MARKETS

- Equities
- Loans
- Bonds

ECONOMICS & FINANCIAL MARKETS continued

CAPITAL MARKETS INSTRUMENTS

- Equity financing
- Loan financing
- Securitisation
- Debt financing
- Fixed rate bonds
- Floating rate notes
- Hybrid debt instruments

BOND MARKETS

- Domestic versus International Bond Markets (Eurobonds)
- Issuing procedures
- Terminology in the US primary market(WI, On-the-run, off-the-run)
- Bond Pricing Basics

IN SEARCH FOR HIGHER RETURNS: ASSET SECURITISATION

- Collateralised Mortgage Obligations
- Credit Card Receivables
- Credit-linked Notes
- Subprime, contagion and the global financial crisis





KEY ECONOMIC INDICATORS

- Demographics
- Purchasing power parity
- Interest rates and yield curve
- Inflation and real interest rates
- Gross domestic product (GDP) and its components
- Jobs
- Disposable income
- Balance of payments
- Commodities
- Treasury budget
- Political factors
- People and Environment
- News

WHAT INFLUENCES MARKETS

- Forecasting
- Key economic indicators
- Technical analysis
- Central banks
- Flow
- Investment decisions

FOREIGN EXCHANGE MARKETS

FOREIGN EXCHANGE MARKETS

- Brief history of FX markets
- The major currencies and currency 'pairs'
- Key FX trading centres
- Key players in the FX market
- What drives the FX markets
- Market volumes and market data
- Triennial returns from the BIS

FOREIGN EXCHANGE PRICES

- Base and quoted definitions
- Spot rates and market volatility
- Forward rates
- Cross currency rates
- Non-deliverable currencies defined
- Pegged currencies

FX PRICING

- How to derive forward rates
- Covered Interest Rate Parity (CIRP) explained
- Bid/Offer spreads
- Calculating forwards
 - Straight dates
 - Broken dates
 - Interpolation
- FX swaps pricing and trading
 - Swap points

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INTERNATIONAL

CURRENCY RISK

- Where is the currency risk?
- A look at volatility
- What is hedging?

PRODUCTS FOR MANAGING FX RISK - OPTIONS

- Understanding Options
- Mechanics of Currency Options
- Exchange and OTC Options
- Key elements of option pricing
- Option pricing models
- What is an option strategy
- Hedging with options
- Payoff profiles to illustrate the risks
- Exotic Options what are they?

PRODUCTS FOR MANAGING FX RISK - FUTURES

- What are futures and where are they traded
- The mechanics of FX futures
- Margining futures contracts
- Understanding Options
- Mechanics of Currency Options
- Trading these markets

TRADING FX FOR PROFIT

- Market views fundamental analysis
- Main economic indicators
- Central bank indicators
- Market views technical analysis
- How technical analysis works in FX

FIXED INCOME, FX & DERIVATIVES

ESSENTIAL CHARACTERISTICS OF FIXED INCOME SECURITIES

- Sovereign and Government Bonds
- US Treasury market, UK gilt market, Japanese government bond market, principal EU markets, emerging markets
- Index linked bond mechanics: Index Linked Gilts, TIPS
- STRIPS stripped government bonds
- Eurobonds, floating rate notes (FRNs), subordinated, asset backed (ABS) etc.
- Convertible debt securities
- Securitization structures risks/benefits
- Zero coupon bonds

ISSUANCE AND TRADING OF GOVERNMENT BONDS

- Mechanics of auctions for government securities
- Role of primary dealers
- Vital role of repo markets using government securities
- Pricing and role of underwriters/syndicates
- Spreads over government bond benchmarks, over LIBOR etc.
- Methods of issuance/origination
- Fixed income markets and trade execution
- Inter-dealer (IDB) price driven electronic trading platforms
- OTC inter-dealer voice trading, exchange trading





DEVELOPED MARKET BONDS AND MONETARY POLICY OF CENTRAL BANKS

- Tools of open market operations influence short rates, liquidity provisioning, reserves
- Impact of Biden Administration on future fiscal policy on US interest rates
- Overview of current US Treasury market shape of yield curve
- Alternatives to discretionary monetary policy deliberation e.g., Taylor rule
- Relative sizes of balance sheets of Federal Reserve, ECB, BOE and BOJ
- Outlook for ECB QE program including corporate bond purchase
- Are ECB and BOJ objectives being realized?
- Consequences of high levels of public debt on fiscal policy in developed markets
- Outlook for future purchases of DM public debt by China, Middle East and other EM

FX AND MONEY MARKETS

- Structural and behavioural features of world's most liquid financial market
- FX Market \$6.5 trillion volume per day, decentralized, 24/7
- Review of major currencies EUR/USD, USD/JPY, GBP/USD, USD/CHF, USD/CAD
- Bretton Woods Agreement 1944
- Ending of convertibility of USD into gold 1971
- Spot FX, FX swaps and forwards
- FX carry trade borrow in JPY and lend in AUD
- Exotic and EM currencies



FIXED INCOME, FX & DERIVATIVES

ESSENTIAL CHARACTERISTICS OF FIXED INCOME SECURITIES

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- Exotic and EM currencies



FIXED INCOME, FX & DERIVATIVES continued

FX FORWARDS AND MANAGING EXCHANGE RATE RISK

- Rationale and motivations for using FX forwards
- Forward Rate Agreements (FRA's) vanilla and more complex
- How corporate treasurers can use FX forwards to manage risk
- How forward rates are determined interest rate differentials
- Tracker Forwards, Forward Extras pricing and cost/benefit analysis
- Structured FX products how structuring and pricing works, usage
- Target Redemption Forwards mechanics and why clients find them useful
- Non deliverable forwards

APPETITE FOR EMERGING MARKET CURRENCIES

- Two speed world economy drivers of capital flows to EM
- Demographic factors and migration
- Intention of central banks to push asset managers into riskier EM assets
- Search for yield by investors in an historically low interest rate environment
- Has globalization invalidated macro-economic theory regarding economic cycles?
- Greater emphasis on cycles in the financial economy
- Differentiate between EM economies which have trade surpluses/deficits
- Negative feedback when advanced economies reduce accommodative monetary policy

INTERNATIONAL

• Anti-globalization movements in the US

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- Implications of Brexit on trade policies within Europe and ROW
- Current political debate about outsourcing, FDI from China

OVERVIEW OF DERIVATIVES AND KEY UNDERLYING MARKETS

- Overview of the size of derivatives markets
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- Bond futures markets US Treasury, UK Gilt, Bund, JGB's
- Short term interest rate contracts

INTEREST RATE SWAPS

- Pricing the fixed leg and interpreting the swap markets
- Contrast money market rates and IR swap rates
- CVA as integral part of fair value/pricing of derivatives as well as a regulatory (Basel) matter
- Collateralized OTC trades versus margin based CCP platforms
- Netting arrangements explanation of mechanism, close out risks
- Interest rate futures short term and long-term instruments
- Eurodollar (USD 3-month LIBOR) and Euribor futures market
- Options on IR futures to create floors, collars
- Conversion factors and cheapest to deliver concepts
- Replacements for the Libor benchmark rates


FIXED INCOME, FX & DERIVATIVES continued

HEDGING WITH FUTURES – COMMODITIES, EQUITIES AND BONDS

- Explanation of basis risk in commodities markets
- Cash settlement or physical delivery
- Calculation of fair value cost of carry
- Perspectives of commercials and speculators
- Commitment of Traders Reports from large exchanges
- Hedge ratios calculations and implementation
- Creating hedges for crude oil exposures
- Creating hedges for exposure to equities portfolio beta

FIXED INCOME MATHEMATICS

- Refresher on fixed income mathematics duration, convexity, BPV
- Calculating the BPV of a bond portfolio
- Basis risk with fixed income futures instruments
- Using conversion factors for instruments within a cash bond portfolio
- Calculation of the BPV of an extant Treasury bond futures contract
- Determining the Cheapest to Deliver (CTD) bond against a futures contract

CORPORATE VALUATION ANALYSIS

- Assessment based on detailed analysis of corporate balance sheets, income statements and cash flow statements
- Impact of Corporate actions capitalization or consolidation, rights issues
- Financial ratios for assessing credit risk
- Profitability, Liquidity, Asset turnover, Gearing
- Liquidity ratios, pay-out ratios, financial stability ratios, operational gearing

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INTERNATIONAL

- Dividend policy, return on equity, Return on Capital Employed ROCE
- Earnings per share, P/E Ratios (historic and prospective)
- •Dividend yield, Dividend/interest cover, Price/book

INTERPRETING BOND MARKET DATA

- Monitoring yields and changes to the term structure of interest rates
- Theories of the yield curve
- Liquidity premium
- Safe-haven premium
- Credit spreads for investment grade and high yield instruments relative to government issue and inter-bank rates
- Credit Default Swap (CDS) rates estimation of probabilities of default

GREEN BONDS

BEST PRACTICE GUIDELINES AND ICMA'S GREEN BOND PRINCIPLES

- Green bond definition
- GBP: Green Bond Principles
- Use of proceeds
- Process for project evaluation and selection
- Management of proceeds
- Reporting
- External review
- Types of green bonds
- Who supports the GBP?
- The governance framework for the GBP

CASE STUDY: China - transition to a low carbon economy

- Largest country of issuance in the climate-aligned universe
- Leader in driving growth in the labelled green bond market
- China Green Bond Index

GREEN BONDS AND THE CLIMATE-ALIGNED BOND UNIVERSE

- Green bonds and climate bonds
- Issuers of green bonds and climate bonds
- Green definitions
- GBCC: Green Bond Certification Categories
- The benefits of green bonds
- Certified climate bonds
- The CBI green bond database
- Climate-aligned issuers

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• The climate-aligned bond universe

INTERNATIONAL

CASE STUDY: Green Bond European Investor Survey

- Investment preferences
- Preferred investment categories
- Investment decision making
- Moving the market forwards
- Emerging markets
- Green halos, private placements and SRI bonds

CLIMATE BONDS

- The climate bond market
- Types of climate bond
- The Climate Bonds Standard and the Climate Bond Standards Board
- Relative prices of climate bonds and other bonds
- CBI: the Climate Bonds Initiative
- Purpose of the Climate Bonds Initiative

CASE STUDY: the US Municipal Bond Market - Green City Bonds

- Climate-aligned investment opportunities
- The top 3 climate-aligned bond issuers
- Use of proceeds
- Labelled green bonds

GREEN BONDS continued

ISSUING BODIES

- National governments
- Supranationals
- Green investment banks
- Municipalities
- PPP's

CASE STUDY: ISSUING A GREEN MUNI BOND

- Projects which qualify for green bond issuance
- External second opinions
- Three reasons to issue green muni bonds
- How to get certified

ICMA'S SOCIAL BOND PRINCIPLES

- Use of proceeds
- Process for project evaluation and selection
- Management of proceeds
- Reporting

ICMA'S SUSTAINABILITY- LINKED BOND PRINCIPLES

- Selection of key performance indicators (KPIs)
- Calibration of sustainability performance targets (SPTs)
- Bond characteristics
- Reporting
- Verification

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TYPES OF BONDS

- Climate Bonds Initiative: three broad categories:
- Organisation-guaranteed bonds
- Asset-backed securities or secured bonds
- Dual recourse bonds
- Standard green use of proceeds bonds
- Green revenue bonds or ABS
- Green project bonds
- Green securitised bonds: ABS, covered bonds, MBS
- Covered bonds
- Loans
- Other debt instruments

PRICING GREEN BONDS

- Initial eligibility criteria
- Continuing eligibility criteria
- Trends in investor demand
- Mainstream institutional investors
- Specialist ESG and responsible investors
- 'Greenium': the green premium
- Corporate treasury
- Sovereign and municipal governments
- Retail investors
- Millennials
- Generations x,y and z
- The global investor coalition on climate change

GREEN BONDS continued

EXERCISE: Green Bond Programme Information Template

EXERCISE: Green Bond Programme External Review Form

THE CURRENT STATE OF THE CLIMATE-ALIGNED BOND UNIVERSE

- Latest developments
- The role of institutional investors
- Labelled green bond issuance
- The green bond market sectors
- Future themes
- Geographic spread

CASE STUDY: TRANSPORT FOR LONDON - GBP 400,000,000 GREEN BOND 2.125% APRIL 2025

- Market timing
- Internal buy-in from the board and senior management
- Green credentials following best practice with a second review
- Market demand
- Tracking of green bond proceeds
- Reporting on green bond use of proceeds and environmental impact
- TfL's success paves the way for other low-carbon transport green bonds
- Issuing a low-carbon transport related green bond





THE 10-POINT CASE

- Challenge
- The solution paths and barriers are largely understood
- Urgency, Catch 22 and developing countries
- Climate bonds can fund the transition to a low-carbon economy
- Volumes required
- There is more than enough private capital in the world to fund the necessary transition
- Institutional investors will invest in long-term climate bonds given adequate and secure returns
- Specific initiatives will depend on delivering secure, long-term returns at competitive levels of risk, rather than on values arguments
- Transition to a low carbon economy presents the largest commercial opportunity of our time
- Achieving the scale and speed of development needed will require an active enabling role on the part of governments, at all levels

CASE STUDY: lessons from Japan

- Bonds as instruments of intermediation
- Long term credit banking
- LTCBs and municipal bonds
- Strengths and weaknesses of the system



GREEN BONDS continued

SUMMARY: ENVIRONMENTAL THEME BONDS - A NEW FIXED INCOME ASSET CLASS

- Shifting capital flows
- 21st century theme bonds
- Liquidity subject to contingent definitions
- Drivers for a sustainable debt capital market
- Re-weighting by institutional investors
- Large investors taking an interest in carbon risk
- Legislative and regulatory pressure
- Constraints on public spending
- Potential to become a significant fixed income asset class
- Issuance review
- World bank green bonds
- European investment bank climate awareness bond
- US government clean renewable energy bonds
- How build america bonds worked
- Triodos bank climate change bonds
- Potential for new issuance
- Looking to the future

REVIEW

• Glossary of terms: Green Investment Bank Commission

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- Scaling up green bond issuance
- Green finance: green bond directions
- Climate Bonds Standard

ΛE

HOW FINANCIAL MARKETS WORK

FINANCIAL MARKETS

- What are the financial markets
- How institutions, investors and speculators trade
- What drives the 'markets'
- Exchange Traded and OTC markets explained

FOREIGN EXCHANGE AND MONEY MARKETS

- FX Markets scope, trade and fund management
- Types of trade
- Relationship to Money Markets
- The Money Markets
- Overview of Money Market Products

A NOTE ABOUT THE CREDIT CRISIS

- What happened and why
- Will it happen again?

BONDS MARKET & BOND PRICING

- Global Bond Markets
- Bond markets government, corporate and international
- Credit Rating of Bonds and Issuers
- Origination, syndication and pricing of issues
- Bond Types
- Transition, Green and ESG bonds explained
- Grading Green Bonds
- Trading bonds domestically and international
- Bond settlement prices and accrued

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INTERNATIONAL

EQUITY MARKETS

- Major Equity Markets
- Equities and Bonds compared
- Emerging markets
- Classification of equities
- ADRs, GDRs, Prefs and Warrants
- Equity valuation
- Equity Indices
- Equity trading and settlement
- Apps and more apps

DERIVATIVES EXPLAINED

- What are derivatives and why they are used
- Understanding leverage
- Forwards
- Futures
- Options OTC and exchange traded
- Swaps
- Credit derivatives CDS, Credit options, Credit notes

COMMODITIES

- Commodities and commodity price movement (volatility)
- The Key Markets
- Precious Metals
- Base Metals
- Agricultural commodities
- Trading these markets

RISK MANAGEMENT CONSIDERATIONS

INTERNATIONAL CAPITAL MARKETS

FINANCING A BUSINESS

- Angel investors, seed funding firms and venture capitalists
- First, second and third round finance
- Selling a business
- IPOs and private equity

CASE STUDY - Green & Blacks

ASSET ALLOCATION

- Active and passive fund management
- tactical and strategic asset allocation
- Time horizons and key drivers
- Hedge fund strategies
- Stock exchanges, 'dark pools'
- ETFs, options on ETFs, flexibility, diversification, hedging and trading, contract specifications

INTERNATIONAL

EXERCISE - Constructing an asset allocation strategy

CASE STUDY - Morgan Stanley's Global Investment Committee

LEVERAGE

- Debt and equity funding
- Leveraged buy outs
- Banks and leverage

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• Basel III and leverage ratios

EXERCISE - Contrasting debt and equity finance

CAPITAL STRUCTURE: WHAT IT IS AND WHY IT MATTERS

- What is capital structure?
- Senior debt
- Subordinated debt
- Mezzanine debt
- Hybrid financing
- Convertible debt
- Convertible equity
- Preferred equity
- Common equity

CASE STUDY - Why capital structure matters

MEZZANINE FINANCE

- Mezzanine debt
- Mezzanine capital structures
- Lowering the cost of capital and improving equity returns
- Mezzanine terms
- Mezzanine exit

CASE STUDY - Exploring the Seven Immutable Laws of Investing

- Insist on a margin of safety
- This time is never different
- Be patient
- Be contrarian
- Risk is the permanent loss of capital, never a number
- Be careful of leverage
- Never invest in something you don't understand

EQUITY CAPITAL MARKETS

- Ordinary shares, preference shares and warrants
- Quote driven and order driven markets and order types
- Market indices
- Block trading
- Equity valuation
- Discounted cash flows
- Dividend valuations
- Price to earnings, price to sales and price to book valuations
- Forecasting earnings
- EBITDA and free cash flow
- Sum of the parts valuations
- IPOs
- Underwriting and public/private placements
- Bookbuilding and accelerated bookbuilding
- Rights issues, pre-emption rights and placements
- Secondary offerings
- Share buy backs
- Bonus issues

CASE STUDY – LinkedIn

CASE STUDY – Facebook

CASE STUDY - VA Linux

CASE STUDY - National Grid's rights issue

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INTERNATIONAL

EQUITY DERIVATIVES

- Contracts for differences
- Long and short positions: hedging
- Dynamics of a short position
- IFRS 9 and hedge accounting

EXERCISE – CFDs

CASE STUDY - Fidelity/JP Morgan – equity index swap

EQUITY OPTIONS

- Puts, calls, leverage and margin
- Protective puts and covered calls
- Equity collars and cash secured puts

CASE STUDY - Using equity options in portfolio management

PRIVATE EQUITY

- Public and private equity
- General partners and limited partners
- Carried interest, hurdle rates and clawback provisions

CASE STUDY - Baskin Robbins

BOND PRICING

- What moves interest rates
- What influences yield curves
- Practical bond pricing techniques
- Clean and dirty prices and accrued interest
- A macro approach to pricing fixed rate bonds
- ICMAs rules 803.1 & 803.2
- Duration and convexity, delta and gamma
- PV01s and DV01s
- Inverse proportionality: prices and yields
- MTN programs
- Public issues and private placements
- Cross defaults, negative pledges and pari-passu clauses
- Pricing Floating Rate Notes (FRN)
- Parallels with fixed rate bonds
- Discount margins, IRRs and YTM
- Changes in the market
- Changes in the credit
- Bond indices
- Bond futures
- Implied repo rates
- Bond options

EXERCISE - Approximating bond prices mentally

EXERCISE - Swire Pacific 6.25% April 2024





INTERNATIONAL BOND ISSUES

- Issuers, arrangers and investors
- Fixed and variable price re-offer
- Benchmarking and credit spreads
- Government and swap curves
- Swap driven deals and asset swaps

CASE STUDY - New international bond issue

CASE STUDY - Swap driven bond issues

CASE STUDY - Pernod Ricard

CASE STUDY - Millenium BCP

SECURITISATION

- SPVs and SIVs
- Motives for investors and issuers
- Tranching and credit enhancement
- Covered bonds

CASE STUDY - Ford Motor Credit

MONEY MARKETS

- Government finance
- Auctions: Treasury bills, notes and bonds
- Discounted bills, coupon bearing and zero coupon instruments
- Government deficits and sovereign wealth funds
- Bank funding and liquidity
- Simple and compound interest and day count conventions
- Money market and bond equivalent yields, nominal and effective rates
- Certificates of deposit
- Bankers' acceptances
- Commercial paper
- Interbank lending
- Corporate funding
- Rolling commercial paper programs
- Bank loans and facilities
- Committed and uncommitted funds
- Bilateral loans, syndicated loans and club deals
- Term loans and revolving facilities
- Loan documentation
- Repos and reverses
- Classic and buy/sell-backs
- The Global Master Repurchase Agreement

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- Securities lending
- General collateral and specials
- Haircuts and margins
- Bilateral and tri-party repo

- Economic similarities to FX swaps
- FRAs and futures
- Exchange traded and OTC derivatives
- Contracts for differences and cash settlement
- Trading and hedging with FRAs and futures

EXERCISE - Hedging floating rate debt with FRAs, swaps and interest rate futures

CASE STUDY - FRAs, Futures and Interest Rate Swaps

- Buying and selling FRAs
- Selling and buying futures
- Paying and receiving fixed rates in the swap markets
- Perfect hedges and basis risk
- Contrasting exchange traded and OTC derivatives

YIELD CURVES

- Market expectations, market segmentation, preferred habitats and liquidity preferences
- Bootstrapping, forward/forward rates, zero coupon curves and discount factors
- Valuing a trade, a book and a portfolio
- Riding the yield curve and asset and liability management

EXERCISE - Valuing fixed and floating rate cash flows

CASE STUDY - Interest rate swap valuation



VALUING INTEREST RATE SWAPS TRADITIONAL

- Zero coupon equivalent rates
- Discount factors
- Spot curves and implied forward rates
- The present value of the floating leg of the swap
- The present value of the fixed leg of the swap

CASE STUDY - Asset and liability management

- Recent trends in ALM
- Yield curve analysis
- Gap analysis
- Net interest income
- Duration gaps
- Economic value of equity
- Value at risk
- Setting and monitoring tolerance limits
- Optimising income and managing risk
- Typical practices in funds transfer pricing
- Managing liquidity risk
- Likely developments in ALM

FOREIGN EXCHANGE

- Variable and base currencies, direct and indirect quotes
- Premiums and discounts: calculating forward prices and forward points
- The carry trade: covered and uncovered interest rate parity
- Hedging with outrights, foreign exchange swaps and currency swaps

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INTERNATIONAL

EXERCISE - Hedging in the forward market

CASE STUDY - Multi-currency debt management and currency overlay

CASE STUDY - Apple's cash pile, share buy-backs and cross-border bond issues

SWAPS & SWAPTIONS

- Pricing principles: interest rate swaps and swaptions
- Pricing principles: currency swaps and cross-currency interest rate swaps
- Interest rate and currency basis swaps
- Structuring swaps: matching cash flows
- Motives for payers and receivers
- Swap driven bond issues and credit arbitrage
- Rationale for structures
- Uses of swaptions
- Pricing swaptions

CASE STUDY - Interest rate risk management

CASE STUDY - European Investment Bank

- Swap driven bond issues
- Calculating the cost of funds on a floating rate basis
- The mechanics of par/par structures
- General principles for structures
- Using the swap rate when calculating the net proceeds of deals in par/par structures





INTEREST RATE OPTIONS

- Caps and caplets, floors, and floorlets
- Collars, step-up caps, cap corridors

CASE STUDY - Hedging interest rate risk with interest rate options

CURRENCY OPTIONS

- Profit/loss profiles and pay off diagrams
- Delta hedging and the importance of gamma

CASE STUDY - Trading currency options

CASE STUDY - Hedging currency receivables

CASE STUDY - ITM and OTM options

EXERCISE - Aligning market views with currency option strategies

ASSET & LIABILITY MANAGEMENT

- Positive and negative interest rate gaps
- Delta, duration, PV01s and DV01s
- PV01s of FRAs futures and swaps
- Hedging interest rate risk

CASE STUDY - Managing duration while hedging the interest rate risk in a portfolio





INTERNATIONAL

ALM CASE STUDY - Lehman Brothers

- Checks and balances in the ALM framework
- The valukas report
- The rapid growth of shadow banking
- Fundamental regulatory failures
- Flight risk and the tri-party repo market
- Lehman's derivative exposure
- Breaching risk limits
- Improving the system

CREDIT DERIVATIVES, STRUCTURED PRODUCTS & RISK MANAGEMENT

- Total return swaps
- Credit default swaps
- Single name, baskets and indices
- Credit default swaps, asset swaps and bond prices
- Structured products: pricing principles
- Motives for issuers, investors and arrangers

CASE STUDY - Analysing the risks in a structured product by examining how it is hedged

COMMODITY HEDGING

- Positive and negative carry
- Contangos and backwardations
- Physical delivery and cash settled contracts
- Commodity futures, options and swaps

CASE STUDY - Mexico's oil hedge - buying OTC put options



RISK MANAGEMENT

- Identifying risk
- Measuring risk
- RAROC
- Value at risk
- Historical
- Analytical
- Monte-Carlo
- Using VaR to set limits
- Managing risk
- Risk management policies and corporate strategy

CASE STUDY - Braeburn Capital – managing Apple's interest rate risk exposures

REGULATORY ENVIRONMENT

- Basel I, II & III
- Dodd-Frank, EMIR & MiFID II
- Wall Street transparency and accountability
- Payment clearing and settlement supervision
- Financial stability
- Role of the central banks and the regulators
- Political impact
- Impact on the banks
- Impact on the economy
- The outlook for the capital markets



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CASE STUDY - Time for real change in capital markets and investment banking

- ROE
- Global full-service players
- Focused global players
- National and regional commercial banks
- Non-bank competitors



INTRODUCTION TO SWAPS

SWAP MARKETS

- The vanilla swap what it does
- A word about FRAs (Forward Rate Agreements)
- Understanding the swap mechanism
- Why 'no exchange' of nominal
- Pricing conventions with swaps

ILLUSTRATIONS OF SWAPS

- Swaps from the corporate perspective
- Swaps from the bank's perspective
- Investment bank as a counterparty
- Asset and Liability Swap

APPLICATIONS FOR CORPORATE CLIENTS

- Changing uncertainty to certainty
- Changing a bond issue profile
- Change the profile of an investment

FUND MANAGER WITH A BOND PORTFOLIO

- Changing interest rate environment
- Mixed portfolio exposure
- Using swaps to hedge and un-hedge a portfolio

INTERNATIONAL

SWAP RATES

- USD, GBP and EUR swap rates
- Market conventions compared
- USD swap 'spreads' to Treasuries
- Illustration of swap rates

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• The swap curve and what influences it

PRICING SWAPS

- The concept of 'mark to market'
- Using current rates to value existing swaps
- Analysing the swap's cash flows
- Zero coupon term structure to discount rates
- Forward interest rates

OTHER TYPES OF SWAPS

- Basis swap
- Amortising swap
- Drawdown swap
- Rollercoaster swap
- Deferred swap
- Constant Maturity swap
- Seasonal swap
- Off Market swap
- Zero coupon swap

CURRENCY SWAPS

- Uses of CCS
- Swaps as Bonds
- Synthetic bonds and their uses
- Leverage with swaps and a portfolio
- Investment manager exposure

THE RISK WITH SWAPS

- Credit risk explained
- Interest rate risk
- ISDA agreement as a backstop
- Default with ISDA in place

INTRODUCTION TO OPTIONS

OPTION BASICS

- What is an option and how do they 'work'?
- Trading options
 - Exchange traded
 - Over the Counter (OTC)
- Key features and overview of pricing
- American and European options
- The risk of options
- Trading and Liquidity

OPTION TERMINOLOGY

- Premium versus No-premium
- Puts and Calls
- Key inputs for pricing
- In-the-money / Out-the-money
- Expiry of options

OPTION PRICING

- Simple profit/loss scenarios
- Payoff profiles
- Bid/offer spread
- Volatility and pricing
- The 'underlying'





PUT/CALL PARITY

- How put/call parity works
- A check of the valuation and pricing dynamics

WORKING WITH VOLATILITY

- How is volatility calculated
- Historical volatility
- Implied Volatility
- Observed Volatility
- Volatility term structure

SIMPLE OPTION PRICING MODELS

- How a model works
- Black and Scholes OPM
- Other models for other markets

HEDGING WITH OPTIONS

- Using options everyday
- Long call/puts
- Short call/puts
- Equity options
- Bonds options
- Interest rate options and swaptions
- Currency options
- Delta hedging explained

MACRO ECONOMIC DRIVERS OF CAPITAL FLOWS

MACRO-ECONOMIC THEORY AT A CROSSROADS

- Overview and evaluation of current macro-economic tools/models
- Macro-economic forecasting questionable track record
- Why didn't macro-economists see the financial crisis coming?
- Econometric models reliability of data, adequacy of conceptual framework
- Summary of the principal critiques of contemporary macro-economics
- Questioning of equilibrium based models and rational utility optimization cornerstones
- Hyman Minsky's view on the inherent instability of the financial system
- The Institute for New Economic Thinking (INET) George Soros, Adair Turner
- Outline of the views of advocates of Modern Monetary Theory (MMT)
 - Insufficient regard to role of credit and money creation
 - Bursting of asset bubbles are not result of exogenous "shocks"
- Contrast of exogenous and endogenous explanations of critical events
- Is there a pattern of increasingly extended economic recoveries?
- Proper recognition of extraordinary conditions following 2008 crisis
- Limitations of macro financial theories efficient markets (EMH), MPT and CAPM





DRIVERS OF GLOBAL CAPITAL FLOWS

- GDP growth, productivity, employment, capacity utilization
- Statistical Data IMF, World Economic Outlook surveys, ONS, BLS, BOE, Federal Reserve
- Increasing role of EM economies, frontier markets and frontier currencies
- Interest rate differentials comparison of short term rates -US, EU, UK, Japan
- FX carry trade traditional pairs and increasing use of dollar as funding currency
- Balance of payments, trade imbalances, capital flows
- Public debt and borrowing requirements
- Inflation outlooks for developed and developing economies CPI, PPI
- Productivity differentials costs for labour and capital, ROI
- Trade-weighted exchange rates, Fisher Theory, forward rates arbitrage
- Geo-political events political crises, currency wars, trade policy
- The role of supranational bodies : IMF, EU, UN, G20 etc.
- Fat tail events approaches to outlier events,
- Observation that low beta assets "outperform" high beta contrary to CAPM
- Why do most active fund managers fail to beat a passive index tracker?









GLOBALISATION AND GEO-POLITICAL ISSUES

- Geo-political events and activities of supra-national bodies
- Civil disorder Islamic fundamentalism, ethnic conflicts (Ukraine), inequality
- Protectionism, monetary policy, political drivers of global energy policies
- Currency wars, risks to pegged exchange rates
- Eurozone (EZ) risks, fiscal integration versus increasing nationalism in EU
- Demographic factors and migration
- Economic arguments in support of free trade and open capital markets
- Review of NAFTA, European Union, ASEAN and TTP
- Has globalization caused down skilling in developed markets?
- Current political debate about outsourcing, FDI from China, protective tariffs
- Echoes of anti-globalization in the 2016 US electoral results

FINANCIALIZATION AND THE BUSINESS CYCLE

- Overview of the financialization of the world economy since the 1970's
- Abandonment of Bretton Woods, gold convertibility, floating FX and interest rates
- Development of financial derivatives and financial engineering
- Review of the classical macro-economic notion of global business cycles
- Evaluation of the alternative view that this has been replaced by more coupled relationship because of increased role of China and other resource hungry economies





- Has globalization and "de-coupling" of EM and Developed world ended the classic global business cycle?
- Traditional view was that commodities were negatively correlated with other asset classes
- Increased correlations between cross sectional movements across all asset classes –especially commodities
- Reliability of economic data from EM and frontier markets
- Correlations in energy and base metal demand and resource currencies
- Understanding the critical importance of energy markets and agricultural produce to EM economies and the impact on their exchange rates
- Comparing the significance of commodity inflation in developed world versus emerging economies

INDICATORS OF FINANCIAL STRESS WHICH CAN LEAD TO A BANKING CRISIS

- Systemic Liquidity Risk Index (SLRI) components and deviations from "normal" behaviour
- Money market indicators indicating credit/liquidity stresses LIBOR/OIS spread, TED spread, "haircuts" in repo markets, CDS rates for banks, sovereign CDS rates
- Foreign exchange indicators cross currency basis swap spreads, abnormal FX carry trade behaviour, EM FX volatility
- Market stress indicators VIX, bid/ask spread, market microstructure measures
- Contrast factors leading to banking crises in High Income versus **Emerging Markets**















- Over leverage and property speculation in High Income economies Sweden, Ireland, Spain, US sub-prime
- Light touch regulatory framework, hubris, failures of the intellectual basis of finance
- Moral hazard intermingling of functions public sector deposit guarantees and bank's trading activities – power of banking lobbies, e.g. Glass Steagall deregulation

OUTLOOK FOR THE US DOLLAR IN THE GLOBAL CURRENCY MARKET

- Historical perspective on US dollar's role as reserve currency
- The legacy of the Bretton Woods framework for foreign exchange
- Keynes's notion of bancor gaining attention from China and IMF
- Criticisms of Federal Reserve's lack of regard for USD as a global reserve
- Quantitative Easing as instrument of exchange rate policy
- "Currency war" is it real? is anyone to blame? Who suffers?
- Fiat currency versus a commodity based monetary standard
- Increasing use of bilateral deals between EM states to avoid reliance on USD
- CNH and CNY market China's onshore and offshore currency
- Growth of offshore RMB markets in Hong Kong, Singapore, London

INTERNATIONAL

• Trade agreements which avoid use of the dollar





INTERFACE OF MONEY MARKETS AND FOREIGN EXCHANGE

- Size of the markets FX daily volumes, size of outstanding derivatives
- Participants commercial banks, central banks, corporates, government agencies
- Issuance of Treasury instruments, repos, bankers acceptances, commercial paper
- Overview of the Euromarkets (not to be confused with the EZ currency)
- LIBOR rates currencies and maturities, market fix post rigging scandal
- Treasury bill issuance in different jurisdictions calculating yields etc.
- The mechanics of the Repo market
- Eurodollar futures market
- Forward rates for interest rate and FX
- Effective yields when risk adjusted for FX exposures
- Arbitrage and interest rate parity
- Current market conditions policy rates, macro-economic background
- Risk premia, key money markets spreads and currency outlook

CHALLENGES OF EMERGING MARKETS/FRONTIER MARKETS

- Spreads and volatility of EM FX liquidity issues
- Major carry trade pairs role of funding currencies Japanese yen, Swiss Franc
- Minor and exotic currencies identification of pairs and trading characteristics
- Taper tantrum in 2013/4 and more recent declines in EM currencies
- Relationship between EM FX and EM corporate debt markets
- Exposures of EM central banks and corporates to US dollar liabilities
- Capital control issues and central bank interventions in EM currency market











- Impact of CNY devaluation on other Asian exchange rates
- Examination of IMF WEO and World Bank data/reviews on EM markets
- Classification systems of global equity markets MSCI, FTSE, S&P
- Regulatory and supervisory environment in EM and frontier markets
- Structure and size of EM markets, volumes
- Geographical opportunities state of current/projected economies
- Demographics of the developing world
- Contrast with the demographics and dependency ratios in the high income economies
- Distribution of wealth/income in the EM economies versus developed economies
- Growth projections for local and global GDP from frontier markets

PORTFOLIO THEORY AND THE RISK/RETURN TRADE OFF IN EQUITIES

- Cornerstones of Capital Asset Pricing Model (CAPM)
- Securities market line (SML), beta, alpha, risk free rate etc.
- The concept of the efficient frontier
- Systematic Risk and idiosyncratic or specific Risk
- Modern Portfolio Theory (MPT) and diversification
- Markowitz model and covariance matrix analysis
- Risk Adjusted Return

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• Sharpe Ratio, Sortino Ratio, Treynor Ratio, Calmar Ratio, Total Expense Ratio (TER)

INTERNATIONAL

- Risk-adjusted return on capital (RAROC)
- Difference between CAPM and Arbitrage Pricing Theory (APT)
- Active and passive strategies index tracking, stock picking, transaction costs
- Hedging and use of derivatives in risk management

VALUATION OF FIXED INCOME SECURITIES

- Time value of money, zero coupon yield curves, par values, discount factors
- Bond duration, convexity, Macaulay Duration, Modified Duration,
- Calculating Basis Point Value (BPV) or DV01 from Modified Duration
- Explanation of an Excel model which permits the calculation of key bond metrics
- Explanation of the term structure of interest rates the yield curve
- Theories as to what factors influence the shape of the yield curve
- Credit spreads over Treasuries, over LIBOR, Z spread

LINKAGE OF SOVEREIGN RISK AND LIQUIDITY RISK IN SAME JURISDICTION

- Size and characteristics of sovereign debt market
- Links within Eurozone between peripheral sovereign risk and local bank risk
- Sovereign credit ratings nature of CRA analysis
- Deterioration in public balance sheets –high debt/GDP ratios
- Global imbalances surplus/deficit nations
- Role of sovereign CDS market
- Sovereign domino thesis and financial contagion
- Sovereign debt re-structuring- bail outs/bail-ins
- Protection to different stakeholders "haircuts"
- Collective Action Clauses
- How do sovereign CDS spreads relate to probability of default?



FINANCIAL CYCLES AND ASSET BUBBLES

- Characterization of traditional credit and asset price cycles
- Expectations of increasing asset prices leads to greater supply of, and demand for, credit; greater demand for assets; increased profitability for banks;
- Increased leverage; higher ROE; relaxed underwriting; greater appetite for risk; self-congratulation; over-confidence, "This time is different"; mispricing of risk
- Historical reasons for toleration and benign neglect of bubble dynamics
- Convenient for avoiding recessionary forces and unpopular structural changes
- Financialization of economies contribution of financial sector to taxation, high income jobs, role of proprietary trading, asymmetrical risk/reward incentives
- Ongoing factors providing the preconditions for future asset bubbles
- Demographic drivers of demand for assets, pension fund activities, **HNW**
- Investment decision making based on reference to crowd behaviour
- George Soros concept of reflexivity and symbiotic nature of price and valuation
- No objective criteria on what is "fair value"- market prices assumed to be "correct"

INTERNATIONAL

- "As long as the music is playing, you've got to get up and dance"
- Do macro-economic models explain why asset bubbles occur?

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KEY CONCEPTS OF BEHAVIOURAL FINANCE

- Contrast the notion of "rational" agents within mainstream financial theory and the alternative assumptions from behavioural finance
- Sources of bias in decision making and judgment:
 - Cognitive and emotional dissonance, gut feelings, fear and anxiety
 - Hindsight bias, unwarranted optimism, wishful thinking
 - Traps in investment decision making from overconfidence
 - Mental frames and pseudo-beliefs
- Asymmetry of perceptions regarding portfolio gains, losses and risktaking
- Prospect theory, loss aversion, heuristics, representativeness
- Status-quo bias, inertia, reactive versus pro-active
- Common misjudgements/misperceptions of investors and their advisors:
 - Denial of losses, inadequate money management discipline, information overload, procrastination
 - Poor risk management techniques
 - Misperceptions of performance attribution

A DEEPER LOOK AT DEVELOPED MARKET BONDS AND RATES

- Review monetary policies of Fed, ECB, BOE and BOJ
- Overview of US Treasury market current shape of yield curve
- Relative sizes of balance sheets of Federal Reserve, ECB, BOE and BOJ
- Scope of ECB QE program including corporate bond purchase
- BOJ asset purchase program including ETF's/Are ECB and BOJ objectives being realized?
- Forward inflation expectations
- Importance of swap rates in interest rate forecasting
- Secular stagnation hypothesis









MEDIUM TERM MAJOR RISK FACTORS IN GLOBAL MARKETS

- Review of expectations regarding policy normalization in the US
- Outlook for world economy in view of slowdown in China
- Is there a looming credit crisis within the Chinese shadow banking sector?
- Challenges posed by weakness in commodities and energy price
- Liquidity concerns in bond markets especially high yield debt
- Debt build-up in EM markets
- Questions for the banking business model in light of regulatory changes
- How will G-SIB banks respond to TLAC capital requirements?
- Outlook for the Eurozone bloc economic indicators continued weakness?
- Extremely high debt/GDP ratio in Japan
- Sustainability of QE programs of the Bank of Japan

SYSTEMIC RISK – COULD THE CRISIS OF 2008 HAPPEN AGAIN?

- Addressing the Too Big to Fail/Too Big to Jail conundrum
- Additional Basel III requirements on institutions which are systemically important SIFI's
- Concentration risk amongst SIFI's and G-SIB's
- Problem of many institutions holding similar assets with high correlation between portfolios and high leverage faced with amplifying feedback loops during liquidations – "fire sales"
- Regulatory focus on new capital surcharges, contingent capital, bail-in debt, living wills, resolution mechanisms
- Basel III method for determining capital levels required of G-SIB's





INTERNATIONAL

- Understand motivation for establishment of counter-cyclical capital buffers
- Initiatives to strengthen the regulation and supervision of hedge funds, OTC derivatives and rating agencies.
- Pro-cyclicality in asset allocation new systemic threat from fund management sector?



CONSTRUCTING & MANAGING EQUITY PORTFOLIOS

OVERVIEW OF EQUITIES AS AN ASSET CLASS

- How does equity ownership compare to other financial claims?
- Position of equity vis à vis other elements in corporate capital structure
- Review of equity capital from an accounting perspective
- Characteristics of ordinary, bearer and registered shares
- Overview of the primary issuance of Equity Securities
- Equity Markets and Trade Execution
- Warrants and Covered warrants
- Contracts for Difference (CFD's)
- Overview of equity based collective investment vehicles

PRIMARY ISSUANCE, CLEARING, CUSTODY AND TRADING OF EQUITY **SECURITIES**

- Listing securities the regulatory framework, investor disclosures
- Structure and stages of an initial public offering (IPO)
- Role of exchanges in providing secondary market facilities, platforms
- Alternative Trading Venues

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- Multilateral Trading Facilities and dark pools
- The meaning of 'books closed', 'ex-div' and 'cum div', cum, special ex, special cum, and ex rights
- Explanation of the nature and objectives of High Frequency Trading (HFT)
- Principles of Delivery versus Payment (DVP) and Free Delivery
- International Central Securities Depositories (ICSD)
- Examination of the role of Custodians/Nominees

• Purpose, requirements, and implications of securities lending SBLI's

INTERNATIONAL

• Short selling, collateral management, re-hypothecation etc

GLOBAL EQUITIES MARKETS/INDICES

- Principal indices/exchanges
- Emerging and frontier markets
- Classification systems of global equity markets MSCI, FTSE
- Historical survey of performance of main global equity indices
 - Historical P/E ratios
- Regulatory and supervisory environment
 - Shareholder protections etc.
- Structure and size of markets, volumes
- Liquidity and transparency
- Trading characteristics e.g. prevalence of off exchange activities

FINANCIAL STATEMENT ANALYSIS

- Purpose, structure and use of balance sheets, income statements and cash flow statements
- Key financial ratios:
 - Profitability, Liquidity, Asset turnover, Gearing
 - Key Investor ratios
 - EPS, P/E Ratios (historic and prospective), PEG ratio
 - Dividend yield, Dividend/interest cover
- Advantages and challenges of performing financial analysis
- Comparing companies across and within sectors
- Accounting for Corporate Actions
 - Stock and cash dividends
 - Rights issues, open offers, offers for subscription and for sale
 - Calculation of theoretical effect on the issuer's share price of bonus/scrip, consolidation, rights issues



CONSTRUCTING & MANAGING EQUITY PORTFOLIOS continued

CORPORATE VALUATION METHODS

- Fundamental equity valuation Discounted Cash Flow (DCF) techniques
- Models based on calculating the Present Value of future dividend flows
 - Simple Model
 - Multi-stage model
- Comparing valuations across different sectors
- What discount rate should be used in DCF models?
- Determining the Weighted Average Cost of Capital (WACC)
- What multiples should be used for individual companies, for overall market?
- How to value high growth enterprises with no dividends
- Sustainability of profits and commercial disruptions
- Relationship of corporate valuations to underlying interest rate environment
- Return on Equity (ROE) measurements including RAROC
- Risk Adjusted valuations incorporating beta into valuation methods
- Importance of changes in the regulatory environment on valuation forecasting

EQUITY ALLOCATION AND PERFORMANCE ATTRIBUTION

- Criteria for determining the relative allocations for equities, fixed income, alternative assets etc.
- Contribution of each to overall portfolio return

• Strategic versus tactical

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- Core versus satellite holdings
- Active equity allocation stock selection vs. passive investment

INTERNATIONAL

• Relative performance of active managers to benchmarks

- Performance attribution allocation to specific securities vs. overall exposure to benchmarks
- Examination of contrasting styles of Growth vs. Value investing
- Warren Buffet's investment philosophy

EXERCISE ON PERFORMANCE ATTRIBUTION

Delegates will be provided with an Excel model to assess a portfolio manager's performance. The manager has a mandate to invest 50/50 in US and UK equities. How should manager's performance be evaluated with respect to asset allocation versus specific equity selection?

PORTFOLIO THEORY AND THE RISK/RETURN TRADE OFF

- Cornerstones of Capital Asset Pricing Model (CAPM)
- Securities market line (SML), beta, alpha, risk free rate etc.
- The concept of the efficient frontier
- Modern Portfolio Theory (MPT) and diversification
- Markowitz model and covariance matrix analysis
- Risk Adjusted Return
- Difference between CAPM and Arbitrage Pricing Theory (APT)
- Active and passive strategies index tracking, stock picking, transaction costs
- Hedging and use of derivatives in risk management
- Survivorship bias phenomenon

CASE STUDY – Why is alpha so elusive?

When individual asset return dispersions are at very low levels how feasible is it for fund managers to gain an edge by seeking out alpha?



CONSTRUCTING & MANAGING EQUITY PORTFOLIOS continued

RISK BUDGETING

- Explanation of risk premia excess return or compensation for not holding riskless assets
- Risk as a scarce resource and how to allocate exposures according to risk premia and expected returns
- Statistical distributions for modelling probability structures
- Benchmarks and tracking errors active versus passive risk
- Recognizing importance of drawdowns holding periods, needs for liquidity
- Expected returns from a risk-budgeting perspective
- Obligations to mark to market trading book, Basel III approaches
- Calculations and mechanics of standard deviation / tracking error/ M 2 / beta
- Risk/Return ratios and their implications in the risk budgeting process:
- Sharpe, Treynor, Information, Jensen's Alpha, Calmar, Martin Ratio, Sortino Ratio
- Value at Risk methodologies, Expected Shortfall, Extreme Value Theory

EXERCISE ON PORTFOLIO OPTIMIZATION

Excel model illustrating variance-covariance matrix of asset returns and how to optimize allocation across asset classes for risk/return





EXCHANGE TRADED FUNDS (ETF'S)

- Compare availability and range of ETF's traded on US, European platforms
- Number of funds, assets under management, growth trajectories
- Contrast features of ETF's to other collective investment vehicles (CIV's)
- Fiduciary/trust architectures, role of sponsors, creation units
- Contrast passive index tracker ETF's (the majority) with actively managed funds
- Examination of MSCI geographical indices which many ETF's track
- Features of inverse ETF's, leveraged funds
- Contrast between funds which hold "physicals" versus those which are synthetic – hold futures, swaps, structured products.
- Replication strategies stratified sampling vs. full replication, use of synthetics
- Examination of tracking error for exchange traded products
- Risks associated with ETF's, liquidity risk, risks with synthetic ETF's

CASE STUDY

- Equity Markets and High Frequency Trading (HFT) Risks The Flash Crash
- HFT and algorithmic trading real and imaginary risks



CONSTRUCTING & MANAGING EQUITY PORTFOLIOS continued

MANAGING RISK FOR EQUITY PORTFOLIOS

- Main types of portfolio risk
 - Market risk asset price volatility, currency, interest rates etc.
 - Investment horizon and holding period
 - Systemic and tail risk
- Principles used to mitigate portfolio risk:
- Seeking relatively uncorrelated assets
- Benefits/limitations of diversification
- Use of derivatives in hedging and risk management
- Modeling risk scenarios stress testing, stress regression based on outlier values, tools of statistical analysis, Monte Carlo simulations, back testing
- Tail risk protection strategies

TECHNIQUES FOR FORECASTING EXPECTED RETURNS

- Risk Factor Asset allocation strategies reversing the trend of MPT and focusing on specific factors which "account" for asset class behaviour
- Identifying key risk factors as drivers of asset prices
- Insights from behavioural finance risk seeking versus risk aversion
- Long term correlations amongst asset classes mean reversion
- Contrarian indicators sentiment, positioning of traders, hedge funds
- Is there any evidence of asset returns having cyclical behaviour?

EXERCISE

Charting long term trends, support/resistance levels





OVERVIEW OF EQUITY BASED DERIVATIVES

- Terminology underlying, spot markets, options, futures, swaps
- Initial margin, variation margin, cost of carry, basis risk
- Equity index futures contracts
- Options on individual equities and equity indices
- American, European, Asian style
- Puts and calls perspective of buyer and writer
- Risk elements of derivatives
- Counterparty risk, Market risk, Liquidity risk
- Risks to the buyer of futures/options
- Risks to the writer/seller of futures/options
- Explain the key contrasts between Exchange traded versus OTC derivatives
- Central clearing versus counterparty risk
- Role of options/futures in hedging equity portfolios

CASE STUDY/EXERCISE

- Determining the appropriate hedge ratios for an international equity portfolio
- Calculation of the correct number of index futures required to hedge a portfolio with European, US, and emerging market equities



PRICING, HEDGING & TRADING SWAPS

ORIGINS OF THE SWAP MARKET

- Parallel loans
- Back to back loans
- Single legal agreements
- ISDA and the BCBS
- Market growth
- BIS statistics
- Comparative advantage
- Credit arbitrage

CASE STUDY - Rabobank & Deutsche Bank

TYPES OF SWAP TRANSACTION

- Equity swaps
- Equity index swaps
- Total return swaps
- Credit default swaps
- Commodity swaps
- Interest rate swaps
- Asset swaps
- Overnight index swaps
- Zero coupon and reverse zero coupon swaps
- Currency swaps and FX swaps
- Cross currency interest rate swaps
- Basis swaps
- Volatility swaps
- Inflation swaps
- Energy swaps

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CASE STUDY - The dynamics of total return swaps, Fidelity and JP Morgan

APPLICATIONS OF SWAPS

- Portfolio management
- Hedging
- Multi-currency debt management
- Translation exposure management
- Asset and liability management
- Credit arbitrage
- New issue arbitrage
- Trading
- Creating or hedging structured notes
- Benchmarking
- Currency overlay

CASE STUDY - Swap driven bond issues, IBRD

CASE STUDY - Benchmarking, FMC Corporation

FRAS, FUTURES AND INTEREST RATE SWAPS

- Strips of FRAs
- Strips of futures
- Arbitrage free markets

CASE STUDY - Interest rate hedging with FRAs, futures and swaps

PRICING, HEDGING & TRADING SWAPS continued

UNDERSTANDING BASIC SWAP MATHEMATICS

- Interest rate quotations
- Interest rate calculations
- Present and future values
- Introduction to discounted cash flow
- Discount factors
- Using maturity rates
- Calculating yields
- Calculating par, zero and forward rates
- Zero coupon discount factors

CASE STUDY - Creating a zero coupon curve and zero coupon discount factors

SWAP VALUATION

- Valuing the fixed leg
- Valuing the floating leg

EXERCISE - Marking swaps to market

CASE STUDY - Valuing an interest rate swap in Excel

CASE STUDY - Swaps as a portfolio management tool

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CASE STUDY - Using swaps in asset and liability management

INTEREST RATE OPTIONS

- Caps
- Floors
- Collars
- Corridors
- Swaptions

CASE STUDY - Vodafone: interest rate hedging

A BRIEF OVERVIEW OF HEDGE EFFECTIVENESS

- IAS 39 & IFRS 9
- Qualifying and non-qualifying hedges
- Accounting treatment
- Retrospective and prospective testing
- Effect on banks and corporations

CASE STUDY - IAS 39

DOCUMENTATION

- ISDA terms
- Trade, effective and termination dates
- Calculation periods
- Business day conventions
- Credit Support Agreements

CASE STUDY - Wells Fargo and MWRA

PRICING, HEDGING & TRADING SWAPS continued

SWAP DISCOUNTING & PRICING USING THE OIS CURVE

- Market dynamics leading to OIS discounting
- Move to the OIS curve
- Rationale for OIS discounting
- Creating the OIS curve
- Bootstrapping Libor curves in an OIS world
 - Libor curves
 - Alternative reference rates
- Generation of an OIS curve when collateral is posted in a different currency
- Discounting of cross currency swaps
- Interest rate derivative pricing in the absence of a collateralised CSA

CASE STUDY - Discounting swaps using the OIS curve

CURRENCY SWAPS

- Initial exchange of principal
- Final exchange of principal
- Relationship with FX swaps
- Currency swaps and long term forward foreign exchange
- Currency basis swaps
- Arbitrage free markets

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CASE STUDY - Currency swaps and forward foreign exchange

INTERNATIONAL

CASE STUDY - Cross currency swap driven bond issue

CASE STUDY - Cross currency basis swaps

STRUCTURING SWAPS

- Par/par structures
- Asset swap structures
- Forward starting swaps
- Delayed start swaps
- Amortising, accreting and roller coaster swaps
- Diff and quanto swaps
- Range accrual notes
- TARNs Target Redemption Notes
- Sticky floaters
- Snowballs

CASE STUDY - Swap structures

CALCULATING CREDIT EXPOSURES

- Current exposures
- Potential exposures
- Expected exposures
- Maximum potential exposures
- CVA and CVA desks

CASE STUDY - Calculating credit exposures

REGULATION

- Netting and insolvency
- Solo, duo, multi and third party multilateral compression
- Exchange traded and OTC derivatives
- Basel III, Dodd-Frank, EMIR

PRICING, HEDGING & TRADING SWAPS continued

EXOTIC SWAPS

- Constant Maturity Treasuries
- Constant Maturity Swaps
- CMS caps, floors and swaptions
- Callable swaps
- Inflation derivatives

CASE STUDY - CMS swaps and options

SWAP PORTFOLIO RISK MANAGEMENT

- Managing the fixed cash flows
- Managing the floating cash flows
- Delta vectors
- Value at risk

CASE STUDY - Managing a swap portfolio





TREASURY PRODUCTS & RISK MANAGEMENT

TREASURY RISK MANAGEMENT

- Role of the treasurer
- Role of the CFO
- Functions of a treasury
- Profit centres and cost centres
- Netting and in-house banks
- Importance of policies, procedures and risk management controls

CASE STUDY: Treasury risk management at Lufthansa

EXERCISE: Defining and categorising different types of treasury risk

- Definitions of risk
- Asymmetrical risks
- Understanding the symmetry of market risks

EXERCISE: Testing for long and short positions

EXERCISE: Exposure management

WHO USES TREASURY PRODUCTS?

- Borrowers
- Investors and wealth managers
- Commercial, investment and private banks

CASE STUDY: Treasury risk management at Apple







TREASURY SOLUTIONS – CURRENCY RISK

- Client exposure management
- Hedging solutions market
 - Spot foreign exchange
 - Base and variable currencies
 - Cross rates
 - Forward foreign exchange
 - Forward pricing
 - Forward points
 - Foreign exchange swaps
 - Currency swaps
 - Exchanges of principal
 - Gross and net settlement of differentials
 - Relationship to forward market
 - Advantages over forward market
- Currency options
 - Comparison with the forward market
- 'Natural' hedging

CASE STUDY:

StoraEnso – Transaction Exposure Management StoraEnso – Translation Exposure Management StoraEnso – Economic Exposure Management

CORPORATE TREASURY RISK MANAGEMENT

- Hedging analysis: summary
 - Selective hedging
 - Partial hedge/run dynamic position

COMMODITY HEDGING AND TRADING SIMULATION

DISCUSSION SESSION: Hedging

CASE STUDY: Netflix

- Investment policy
- Interest rate sensitivity
- Using the portfolio's modified duration
- Identifying foreign currency risk: long and short positions

INTERNATIONAL

- Currency risk management policy considerations
- Currency risk management techniques

HOW HEDGING WORKS

- Identifying and analysing risk
- Types of risk
- Long and short positions
- Hedging
- Physical delivery
- Contracts for differences
- The importance of carry

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- Put/call parity
- The role of leverage in derivatives hedges
- OTC and exchange traded products

- OTC and exchange traded products
 - How initial and variation margins work
 - Herstatt risk
 - DVP, PVP & CLS bank
 - Symmetrical and asymmetrical risk management
 - Equal and opposite positions
 - Correlation and partial hedges
 - When is a hedge a speculative position?
 - IAS 39

STRATEGIES FOR USING TREASURY PRODUCTS

- Understanding the client's appetite for risk
- Borrowers
- Investors
- Upside/downside and downside/upside strategies
- Identifying exposures revisited
- Know your client

MEASURING TREASURY PERFORMANCE

- Defining objectives
- Challenges in performance measurement
- ROE, Modified duration, PV01, VaR ...
- Banks and Corporations: Approaches to performance measurement

CASE STUDY: Measuring performance at JPMorgan



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EVALUATING THE BENEFITS OF TREASURY MANAGEMENT

- Evaluating upside and downside risks
- Advising clients on risk management
- Managing costs

CASE STUDY: Forecasting and treasury risk management

INTEREST RATE HEDGING AND TRADING SIMULATION

CASE STUDY: How Global Investors Turn Negative Japan Yields into Big Returns

- Record-low negative yields
- Discount offered to dollar holders to borrow yen
- Fixed coupon equivalent for owning five-year JGBs
- Foreign demand for Japan's two- and five-year bonds
- Cross-currency basis swaps
- Demand for dollars

EXERCISE: Relating market news to currency risk management

EXERCISE: How markets move

- Economic fundamentals
- Technical analysis
- Random walks

DISCUSSION SESSION: What we know (and what we don't) about markets





MONEY MARKETS AND INTEREST RATE RISK

- TBills, CDs, CP, ABCP
- IBORs, IBIDs, IMEANs and the interbank money markets
- Repos, Securities Lending and Sell/Buy backs
- Day count conventions: act/360, 30/360, act/act
- Discounts and yields
- Present values, future values, IRRs, YTMs and AICs
- ICMA 803.1 & 803.2

UNDERSTANDING MONEY MARKET/SWAP MARKET YIELD CURVES

- Liquidity preferences
- Preferred habitats
- Market expectations
- Market segmentation
- Efficient markets?

CASE STUDY: The lessons of the credit crisis of 2007-2009

TREASURY SOLUTIONS – INTEREST RATE RISK

• Fixed rate and floating rate risk

EXERCISE: Measuring fixed and floating rate risk; 5 year fixed rate bond vs 5 year FRN

- Quantifying interest rate risk
- Interest rate sensitivity
- PV01s and DV01s
- Interest rate gaps
- GAP analysis
- Calculating, understanding and using Macaulay's duration
- Calculating, understanding and using modified duration and convexity
- Using duration as a hedging tool
- Interest rate liability management
 - Fixing floating rate debt in the forward market
 - Fixing floating rate debt in the futures market– fixing floating rate debt in the swap market
 - Hedging with interest rate options
- Interest rate asset management
 - Forwards
 - Futures
 - Interest rate swaps
 - Interest rate options

EXERCISE: Participants will determine the interest rate exposures of multinational corporations and banks





HEDGING TOOLS

- Fras or futures?
- Using interest rate swaps
- Generic, 'plain vanilla' swaps
- Swap structures
- Par/par structures
- Forward starting swaps
- Amortising, accreting and roller-coaster swaps
- Caps, floors and collars
- Option pricing
- Importance of delta and gamma in hedging
- Swaptions

CASE STUDY: FRAs, futures and interest rate swaps

- Buying and selling FRAs
- Selling and buying futures
- Paying and receiving fixed rates in the swap markets
- Perfect hedges and basis risk
- Contrasting exchange traded and OTC derivatives

MULTI-CURRENCY DEBT MANAGEMENT

- Using forward foreign exchange outrights
- Forward pricing
- Covered interest arbitrage
- Forward points
- Discounts and premia
- Hedging currency debt

- Using FX swaps
 - Hedging currency debt
 - Arbitraging the credit spread
 - The carry trade
- Using currency swaps
- Using currency options

EXERCISE: Participants will use currency derivatives to manage corporate exposure management positions

INTEREST RATE SWAP HEDGING AND TRADING SIMULATION

INTEREST RATE RISK MANAGEMENT

- Sources of floating rate finance
- Sources of fixed rate finance
- Contracts for differences and physical delivery

EXERCISE: Participants will examine the interest rate risk management strategy of Procter & Gamble

CASE STUDY: StoraEnso's interest rate risk management strategies

INTERNATIONAL

CORPORATE ASSET & LIABILITY MANAGEMENT

- Gaps
- Borrowing short and lending long
- Leverage and structured products
- Recent trends in ALM
- Yield curve analysis

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GAP ANALYSIS

- Net interest income
- Duration gaps
- Economic value of equity
- Value at risk
- Setting and monitoring tolerance limits
- Optimising income and managing risk
- Typical practices in funds transfer pricing
- Managing liquidity risk
- Likely developments in ALM

EXERCISE: Participants will suggest the different ways that interest rate derivatives can be used to cover interest rate risk by corporate treasurers

PORTFOLIO MANAGEMENT

- Investment policies
- Sensitivity to a 1% parallel shift in the curve
- PV01s & DV01s
- Analysing the portfolio
- Estimating the modified duration of the portfolio
- Hedging the portfolio in the swap market
- Calculating the delta vector
- Modified duration of the swap
- Stack hedging the portfolio
- Strip hedging the portfolio
- Implied yield curve views
- Stress testing the hedge
- Managing interest rate risk



MEDIUM AND LONG-TERM FINANCING STRATEGIES CAPITAL MARKETS LIQUIDITY RISK MANAGEMENT - EQUITY

- ADRs and GDRs
- Shares and preference shares
- Pricing
- Multiples
- Origination
- Underwriting
- Distribution

CASE STUDY: VA Linux

CAPITAL MARKETS – DEBT

- Government, corporate and international bond issues
- Fixed rate issues
 - Pricing
 - Benchmarks
 - Aic, ytm, irr
 - Origination
 - Underwriting
 - Distribution
- Floating rate notes
 - Pricing
 - Distribution
- The term structure of interest rates
 - Using zero coupon rates
 - Calculating the z-spread



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- Lessons from the Crisis
 - Stress testing
 - Contingency funding plans and asset market liquidity
 - Off-balance sheet activity and contingent commitments
 - Capital
 - Supervision and market information
 - Central bank facilities
- Measurement and management of liquidity risk
 - Identifying, measuring and controlling liquidity risk
 - Managing liquidity across business divisions
 - Funding strategies
 - Managing intraday liquidity
 - Stress testing
 - Contingency funding plans
 - Liquidity cushions

CASE STUDY: Participants will compare and contrast liquidity risk management at HSBC, Goldman Sachs, Apple and Nokia

ASSET AND LIABILITY MANAGEMENT

- The role of ALCOs
- Hedging strategies in practice
- Market cycles
- Lessons from the crisis
- Perspectives of banks and companies

CASE STUDY: Using index futures, index swaps in asset and liability management. Participants will examine a hedge from the perspectives of the asset and liability managers, the market maker and the regulators

PRACTICAL WORKSHOP: Participants will analyse and hedge the risk in a portfolio of assets and liabilities

DEBT MANAGEMENT

- Efficient uses of capital
- Equity finance and debt finance: advantages and disadvantages
- The importance of leverage
- The importance of capital adequacy
- Value-at-Risk

AVOIDING HEDGING PITFALLS

- Portuguese train companies and snowball swaps
- Managing financial risks
- Laying off risks with banks
- Laying off risks with customers
- Snowball interest rate swaps
- Calculating downside risks
- The view of the courts
- Legal and moral significance of hedging and trying

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• Bank/customer relationships
Final thoughts on partnering with JH Consulting International



All our trainings are built around the specific needs of your business and the groups being trained everything we do is customised for you at no extra charge!



You'll be able to implement your new skills immediately our courses are designed by practitioners for practitioners.



Our courses can be delivered via virtual platforms or delivered in person where it is safe and appropriate to do so.



We know how to make virtual trainings engaging, impactful and highly effective – don't waste your time with a boring trainer talking to a set of PowerPoint slides!



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We are focused on creating value, by giving you the best possible training for the best possible price – we know our fees are better than our competitors, but so is our service!



You'll receive a level of service that is so unique you'll ask why other providers don't go the extra mile the way we do!



We have relationships with universities and professional bodies around the world and are able to secure academic accreditation where appropriate.



With five decades of international training experience under our belts, you can trust us to deliver.









Let's make some amazing learning happen





info@JH-Cl.com