

## **Derivatives Structuring and Financing**

**FRE-GY6981**

### **Part 1**

#### **Background:**

The availability of data and financial information together with open source software and pricing engines has greatly impacted the job market for “quants.” While machines have started to replace some trading positions such as market making in very liquid instruments like Foreign Exchange (FX) there is still a growing need for structuring skills where the knowledge of derivatives instruments and their workings are used to create structures that will help companies and investors to manage their financial risks efficiently.

Structuring skills are also in demand at Corporate Treasuries where the emphasis is on the application of derivatives to better manage various financial exposures such as interest rates, Foreign Exchange (FX), or commodities. Treasuries of companies usually do not engage in developing pricing models but rather apply FE techniques to their hedging, funding, and investment activities to ensure that they receive the best values from the market. Moreover, the accounting treatment of derivatives is also of utmost importance to public companies because accounting impacts their income statement and ROE and ROA. Consequently, structurers should be knowledgeable of the accounting treatment of products and solutions that they recommend to corporations or investors.

All major banks and investment houses have teams of Derivatives Marketers and Structures who help companies and customers in developing and selecting the optimum risk management tools.

Investment management is another area where structuring skills are in demand. Many investors have more complex and nuanced views than just being “Bullish” or “Bearish” about an asset. Their view can be conditional on certain events and the chance of them happening. Structuring can help in devising structures and instruments that reflect these views- structured notes such as equity linked notes or commodities linked notes are cases in point.

This course will provide the students with practical knowledge that should help them in their job search and also expand the universe of their choices by including opportunities at Corporate Treasuries.

The first part of the course will have weekly assignment, a short midterm, and a final at the end of part 1.

#### **Syllabus:**

Following are the major topics that part 1 of the course will try to cover:

- Short term and long term financing alternatives for corporations
  - a) FRA

- b) Futures and Convexity Adjustment
  - c) Interest rate swaps
  - d) Interest Rate Options
    - Caps
    - Floors
    - Collars
- Using options as cheapeners
  - a) Structured swaps
  - b) Structured caps & Floors
- Hedging Issuance of a bond using Treasury lock
- Credit Risk, Credit Spread, and Funding
  - a) Credit Models
    - Reduced Form
    - Structural Models
- Structured Investments
  - a) Equity Linked Notes
  - b) Commodity Linked Notes
  - c) Credit Linked Notes
- Cross-Currency Swap in Corporate Finance and Investment
- Total Return Swap (TRS)
- Investing In Hedge Funds
  - a) Performance measures
- Hedging employee stock options
- Preferred shares and their use in corporate treasury
- Review of accounting
  - a) Balance Sheet
  - b) Income Statement
  - c) Statement of Cash flows
  - d) Relationships among different elements of financial statements
  - e) Accounting treatment of derivatives