IIT ROORKEE

NPTEL ONLINE CERTIFICATION COURSE

QUANTITATIVE INVESTMENT MANAGEMENT

LECTURE 2

Hybrids & Derivatives

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HYBRID INSTRUMENTS

PREFERENCE SHARES

- **Preference share capital means, in the case of a company limited by shares, that part of the capital of the company which:**
- **(1) carries a preferential right to payment of dividend during the lifetime of the company;**
- **(2) carries, on a winding up, a preferential right to be repaid the amount of capital paid-up.**

DEBT RELATED FEATURES

- Fixed returns as dividend
- Pre-emptive right to
- (i) dividend
- (ii) return of capital
- No voting rights
- Voting rights only if the company is in default of preference dividend for 2 years or more (sec 47 of 2013 Act).

EQUITY RELATED FEATURES

- Dividend is discretionary
- Dividend is appropriation of profits
- Dividend is not a charge against profits
- No tax shield on dividend
- Voting rights in case of default of dividend

- **We can have situations where:**
- **both preference and equity dividends are paid,**
- **both preference and equity dividends are NOT paid,**
- **preference dividends are paid but equity dividends are not paid,**
- **BUT WE CANNOT HAVE A SITUATION WHERE PREFERENCE DIVIDEND IS NOT PAID BUT EQUITY DIVIDEND IS PAID.**

CONVERTIBLE SECURITIES & WARRANTS

- **Convertible securities**
- **may be convertible bonds or preferred stocks**
- **that pay regular interest/dividend for a pre-specified period**
- **and then can be converted into shares of common stock.**

WARRANTS

- In finance, a warrant is a security that
- entitles the holder to buy the underlying stock of the issuing company
- at a fixed price called exercise price
- on or until the expiry date.

DERIVATIVES

DERIVATIVES

- Derivatives are securities whose value is based on the price or value of an underlying asset.
- The underlying asset may be stock, stock index, T-bill, T-bond, exchange rate, interest rate, commodities, real estate etc.
- Examples: forwards, futures, options, swaps, future options, etc.

- **The individual selling the derivative doesn’t need to own the underlying asset outright.**
- **Derivatives may only require a relatively small down payment in relation to the maturity payoff.**

IFRS DEFINITION OF "DERIVATIVE"

- IFRS 9 defines a derivative as a financial instrument with all three of the following characteristics:
- Its value changes in response to the change in an underlying variable which may be price, interest rate, index of prices or rates, credit risk or the like.
- It requires no initial net investment or a smaller initial net investment relative to other instruments having similar risk-return characteristics.
- It is settled at a future date.

BASIC TYPES OF DERIVATIVES

- Forward Contracts
- Futures Contracts
- Options Contracts
- Swaps

FORWARD CONTRACTS

- **Forwards are customized contracts negotiated today (t=0) at today's agreed price and other terms of delivery.**
- **However, the settlement of the contracts takes place on a specified future date (t=T). The settlement date is also agreed today.**

- **Cash flow occurs in the future. No cash flow now except margin.**
- **Since forwards are private contracts, they are susceptible to default risk.**

FUTURES CONTRACT

- Futures are similar to forwards.
- However, They are traded on futures exchanges.
- Standardized: Since futures are exchange traded, they are standardized to facilitate liquidity.
- No Default Risk: To enable uninhibited trading, the exchange's clearing house guarantees performance of both legs of these contracts. Hence, these contracts carry negligible default risk.
- The exchange protects itself by imposing margin & MTM.

FORWARDS VS FUTURES

- Forwards are private contracts
- Forwards are customized
- Forwards carry one specified delivery date usually
- Forwards are settled at maturity by delivery or cash settlement
- Forwards carry some credit risk

FORWARDS VS FUTURES CONTD…

- Futures are exchange traded contracts
- Futures are standardized
- Futures may carry one or a range of specified delivery dates
- Futures are settled daily by MTM
- Futures are usually closed out before maturity
- Futures carry virtually no credit/default risk

OPTION CONTRACTS

- **Option contracts are contracts whereby the holder of the option acquires a right to buy/sell a certain asset by/on a certain date for a certain price.**
- **The seller of the option has the obligation to honor the option if the holder decides to exercise the option. He has no discretion.**
- **Option contracts that give a right to the holder to buy (sell) the underlying asset are called calls (puts).**

SWAPS

- Swaps are private agreements between two parties to exchange cash flows in the future according to a pre-arranged formula. They can be regarded as a portfolio of forward contracts. Common swap contracts are
- Interest Rate Swaps (IRS)
- Currency Swaps