DERIVATIVES –SWAPS

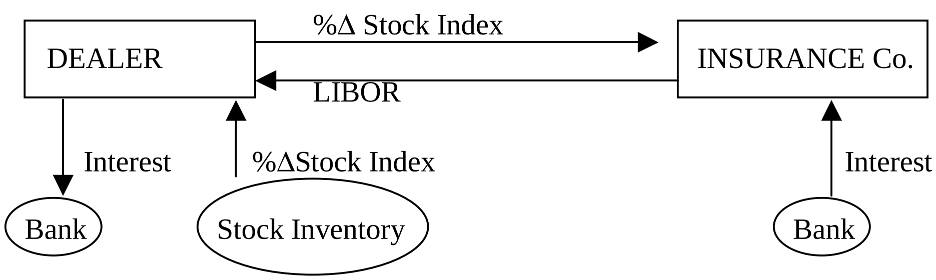
A. INTRODUCTION

- Swaps: contractual agreements between 2 parties in which each party agrees to exchange a stream of cash for a stipulated period of time based upon certain agreed-upon parameters and the price fluctuations in some underlying specified commodity or market index.
- The Market Began in 1981 & has been Growing ever since.
- **Advantages of a Swap Agreement**
  - Highly Flexible & can be customized to the parties
  - Cost of transacting in the market is fairly low
  - Private transaction between 2 parties (unregulated)
- **Disadvantages of a Swap Agreement**
  - Requires finding a Counter-party willing to accept the terms
  - An Illiquid Market (require consent of counter-party to terminate)
  - Unregulated: lots of potential Credit Risks

B. EQUITY INDEX SWAPS

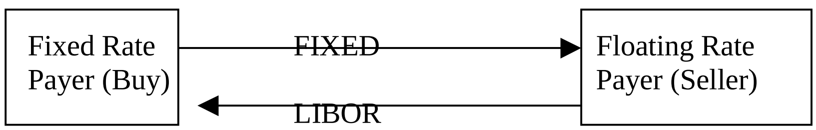
- Start with Some Notional Amount and 1 party pays return on Index while other pays return on LIBOR

For Example:



Note: This is Really a Betting Arrangement since NEED NOT PUT UP THE NOTIONAL Amount

C. INTEREST RATE SWAPS

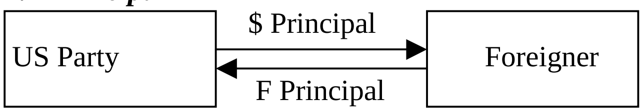


Fixed Rate Payment = r_{Fixed} * (t_p/365)*(Notional Principal)
Floating Payment = $r_{float\ t-1}$ * (t_p/365)*(Notional Principal)
Then, usually Net Out the Payments

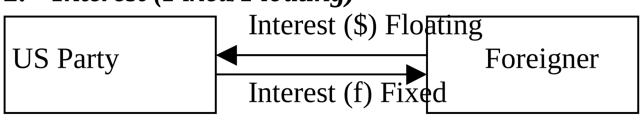
D. ***CURRENCY SWAPS***

- Currency Swaps are essentially forward contracts that can be tailored for specific needs. 3 Phases.

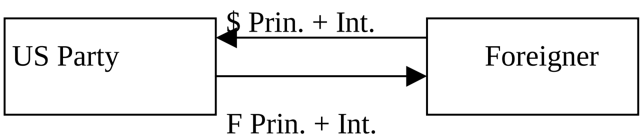
1. Principal



2. Interest (Fixed/Floating)



3. Termination



E. ***PRICING INTEREST RATE SWAPS***

- Conventional “Plain Vanilla” Interest Rate Swap involves the swapping Fixed for Floating Cash Flows.
- At start, there should be no price, because it is perfectly priced.
- Can try doing Bootstrapping of the rates to determine the price.
- TED Spread → Treasury Euro Dollar

F. ***FACTORS AFFECTING SWAP PRICING***

1. Term Structure of Interest Rates
2. Creditworthiness of Swap Partner
3. Ability to Offset Risk by entering into Offsetting Swaps
4. Volatility of TED Spread

G. ***VALUING INTEREST RATE SWAPS***

- Value does not Equal the Price of a Swap
- Pricing is the process of determining the rate of interest that the fixed-rate payer must pay on the notional amount.
- Value of a Swap at any time is the present value of the net future cash flows that would be generated if the swap were to be reversed.
- Value is the amount would have to pay to terminate
- Value it the amount for which the dealer could sell to a 3rd party
- Value represents the loss if the counter-party defaults

H. ***RISKS IN SWAP PORTFOLIO MANAGEMENT***

1. BASIS Risk : is the risk that the TED Spread might change
2. DEFAULT Risk: the risk that a counter-party will not honor its obligations
3. MISMATCH Risk: risk that the dealer cannot exactly match all of its swap agreements with reverse or counter-swaps. Leaves the dealer exposed to interest rate risk.

I. ***INTEREST RATE SWAPTIONS***

- Swaption: an option on an interest rate swap.