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## SECTION - 4

### INTEREST RATE SWAPS

**This Section includes**

- **Interest rate swaps**
- **Single-Currency Swap**
- **Cross-Currency Swap**
- **Rationale behind Swaps**

#### **4.1. INTEREST RATE SWAPS**

- 4.1.1 The second product group used by corporate treasurers for managing interest rate risk is swaps.
- 4.1.2 All swaps involve interest and currency.
- 4.1.3 A swap is an agreement between two parties to pay to each other a stream of cash flows for a set period of time, calculated on a specified basis on a fixed sum of money.
- 4.1.4 It means that the two parties each take out a loan and agree to pay each other's interest obligations i.e they swap interest payments in such a way that it saves money for both borrowers.
- 4.1.5 More than 80% to 90% of Eurobonds are launched as part of a 'bond plus swap' package.
- 4.1.6 The terms of the original issue of bond is of no concern. The borrower, through swaps, can convert any inappropriate terms into favorable terms of amount, currency and interest rates.

#### **4.2. SINGLE-CURRENCY SWAP**

- Company A borrows 100 m at a fixed rate, although it actually wants to pay interest on a floating rate basis.
- Company B borrows 100 m, but on a floating rate basis even though it really needs a fixed rate loan.
- Both of them agree, through an intermediary bank, that A will pay floating rate interest on 100 m to B, in return, B pays to A fixed interest on 100 m. This agreement is the single-currency swap, as only one currency is involved.



- Since the interest payments are all in the same currency they be offset, and in practice only a net difference amount will be paid at each relevant date.

### 4.3. CROSS-CURRENCY SWAP

- Company A borrows 100 m USD at a fixed rate, although it actually wants to borrow 175 m swiss franc, paying fixed rate of interest. At this time, the spot exchange rate was swiss franc 1.75/us dollar 1.
- Company B borrows Swiss franc 175 m at a fixed rate, actually needing fixed rate US dollars.
- A has Swiss franc and B has Dollars. They agree to swap the principal amounts and the interest.

### 4.4. RATIONALE BEHIND SWAPS

- 4.4.1 Why do borrowers use swaps despite a lot of work?
- 4.4.2 Swaps are resorted only if the net result is a lower cost of funds. There are three major reasons for the lower cost of funds.
- 4.4.3 Name recognition: A particular borrower may be well known to investors in some markets and will be able to raise funds at a cheaper rate in one currency. He can look for another borrower who may be able to raise the currency that he needs at a lower cost in his own country. With banks acting as intermediaries, these two parties can be brought together, resulting in lower cost of funds for everyone.
- 4.4.4 Differential risk spreads: Investors in a fixed rate market demand higher credit risk premium as the quality falls than investors in the floating rate interest market. Floating rate lenders might accept an increase in spread from say .25% to .75% as sufficient inducement to accept an 'A-' quality borrower rather than 'AA+' one; fixed rate investors could well demand a differential of 1.00% to 1.20% between 'A-' and 'AA+'. Locking into long term fixed rate involves more market risk for an investor than does an equivalent floating rate deal. Investors in fixed and floating instruments form clearly defined and separate sets.
- 4.4.5 Independent markets: Various markets for currencies and fixed / floating rates are separate and individual, and the interest rates in each are defined by supply and demand in each market independently. Different conditions, terms or regulations can apply to the different market rates.
- 4.4.6 All these factors, working simultaneously, show why swaps are very popular.
- 4.4.7 Illustrations:

Single currency swaps

- Company A and Company B, both wish raise US 80 M dollars for five years
- Company A has the choice of issuing fixed rate debt at 7.75% or floating rate debt at LIBOR+25 basis points
- Company B, which has a lower credit rating, can issue fixed rate debt of the same maturity at 8.70% or floating rate at LIBOR+ 37 basis points
- The table below shows the position and savings.

| Single Currency Swap        |              |               |
|-----------------------------|--------------|---------------|
|                             | Fixed rate   | Floating rate |
| Company A                   | 7.75%        | Libor+0.25%   |
| Company B                   | 8.70%        | Libor+0.37%   |
| Difference on risk premiums | 0.95%        | 0.12%         |
| Net differential            | <b>0.83%</b> |               |

- The net differential of .83% provides the motivation for a swap, assuming that company A would prefer to issue floating-rate debt and company B would prefer fixed rate debt with a lower coupon
- Company A issues fixed rate debt at 7.75% and company B issues floating rate debt at LIBOR + 37 basis points
- A financial intermediary, bank, organizes a swap between the two companies-Company A, which issued fixed debt at 7.75%, negotiates to pay the bank a floating rate of LIBOR flat while the bank agrees to pay company A a fixed rate of 7.85%
- The full economics of the swaps is shown in the table below:

| Economics of swap            |              |              |              |
|------------------------------|--------------|--------------|--------------|
|                              | Compan A     | Bank         | Company B    |
| Paid to third party investor | -7.75%       |              | (L+.37%)     |
| Bank pays A                  | 7.85%        | -7.75%       |              |
| B pays bank                  |              | 8.00%        | -8.00%       |
| A pays bank                  | -L           | L            |              |
| Bank pays B                  |              | -L           | L            |
| Net position                 | (L-.10)%     | 0.15%        | -8.37%       |
| Cost without swap            | L+.25%       |              | 8.70%        |
| <b>Gain</b>                  | <b>0.35%</b> | <b>0.15%</b> | <b>0.33%</b> |



#### 4.4.8 Illustration:

##### Cross-currency swaps

- Company A wants Sfr 120 m, 5 year fixed. It has the choice of issuing US dollar fixed debt 7.75% or Sfr at 2.5%
- Company B, which has a lower credit rating, can issue US dollar fixed debt of the same maturity at 8.70% or fixed sfr at 2.62%. It requires US 80 m for five years
- So, A borrows US dollar 80 m for five years, paying 7.75%; B borrows sfr 120 m at 2.62%, also with a five year term. The spot rate at the time was Sfr 1.5/US dollar 1
- The intermediary bank does a swap with A, paying the company 7.75% on USD 80 m and receiving 2.15% on sfr 120 m. It also exchanges principal amounts for the life of the swap
- Similarly, it does a deal with B, paying the company 2.15% on sfr 120 m and receiving 7.90% on US 80 m and also exchanging principal amounts
- The intermediary bank receives a net benefit of US dollar 15 basis points i.e 7.90%-7.75%, the swiss franc side having been arranged to be a 'pass through'
- Company A could have issued fixed sfr at 2.50% and through the swap, has achieved 2.15%, a net benefit of 35 basis points
- Company B could have issued fixed US dollar at 8.70% and achieved 8.37% but has a small amount of currency risk because it is paying 7.90% in US dollars and .47% in swiss francs. It will still go ahead with the deal as the risk is small compared to the annual saving of 33 basis points on US dollar 80 m.
- One can extend this idea of a cross currency swaps into a commodity swap involving commodities like oil, gas, electricity etc
- Swap is an integral part of modern debt financing.