1. If you are warehousing swaps what does this mean?

2. Why is the expected loss from a default on an interest rate swap, less than the expected loss from the default on a bank loan with the same principal?

3. Explain the difference between credit risk and market risk. Can these risks be hedged for a swap and for other positions?

4. Companies A and B have been offered the following rates per annum on a $10 million, 7-year loan:

<table>
<thead>
<tr>
<th>Fixed Rate</th>
<th>Floating Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company A</td>
<td>6.0%</td>
</tr>
<tr>
<td>Company B</td>
<td>7.4%</td>
</tr>
</tbody>
</table>

Company A requires a floating rate loan, while company B requires a fixed rate loan. Design a swap that will provide a bank, acting as intermediary, 0.1% p.a. and which divides the remaining gains in the swap equally between A and B. (Hint: Get the bank to pay and receive floating, at LIBOR).

5. A $100 million interest rate swap has a remaining life of 10 months. In the swap, 6-month LIBOR (floating) is exchanged for 6% p.a. “fixed” (i.e. the fixed rate is 3% over each 6-month payment period). The yield curve is currently “flat” with all spot rates for all maturities being currently 5% per annum with continuous compounding. The 6-month LIBOR rate, 2 months ago, at the previous “fixing date” was 3.6% p.a. (expressed as simple interest rate). What is the current value (i.e. 2-months into the swap) to the party paying floating? What is its value to the party paying fixed?

Consider the swap as (i.) a combination of fixed and floating bond and (ii.) a series of forward contracts.

(Hint: Because the term structure is flat at 10% p.a. continuous compounding, then all future spot and forward rates equal 10%, continuously compounded.)

6. Suppose that the term structure of interest rates is flat in the United States and Euroland. The dollar interest rate \( r_{us} = 6\% \) per annum while the Euro interest rate is \( r_{e} = 3\% \) per annum. The current exchange rate is \( S = 1.0 \) Euros per $. Under the swap agreement, a financial institution pays (a ‘coupon’ of) 3% per annum in Euros and receives (a ‘coupon’ of) 5% per annum in USDs. The principle in the two currencies...
are $100m and € 90m. Payments are exchanged every year with one exchange having just taken place. The swap will last 2 more years.

Consider the swap as a portfolio of (i.) bonds and (ii.) futures contracts. What is the value of the swap to the financial institution? Assume all interest rates are continuously compounded.

7. A currency swap with annual payments has a remaining life of 15 months. In the swap, interest payments are exchanged at a ‘coupon’ rate of 6% on 50 million Australian dollars (AUD) for coupon interest payments at 4% on 30 million US dollars (USD). The term structure of interest rates in both countries is flat with \( r_{us} = 8\% \) and \( r_{as} = 10\% \) (both of these rates are continuously compounded). The current exchange rate is 0.65 USD per AUD.

Consider the swap as a portfolio of (i.) bonds and (ii.) futures contracts. What is the value of the swap to the party receiving dollars and paying sterling?