END OF CHAPTER EXERCISES

Chapter 6 : Money Markets

Investments : Spot and Derivatives Markets

(Keith Cuthbertson, Dirk Nitzsche)

1. Which is higher LIBOR or LIBID, and why ? What is the higher, the bid *price* or the ask (offer) price on a T-bill?

2. What is a 'repo' ? Give a simple example of how you calculate the (simple annual) rate of interest (yield) on a 7-day T-Bill repo. (Assume the day count convention is actual/365.)

3. A UK T-Bill with 60 days to maturity has a face value of FV = £1m and a quoted discount rate of d = 10%. The day count convention is actual/365. Calculate :
   (a.) the (sterling) discount, D
   (b.) the market price, P
   (c.) the (simple annual) yield, y.

4. A 6-month (US) T-Bill was issued some time ago and now has a market price P = $ 98 per $100 face value. The number of days left to maturity is now 90. The day count convention is "actual/360". Calculate :
   (a.) the quoted discount rate d
   (b.) the (simple) annual yield

5. A 1-year (UK) T-Bill has a quoted discount rate of 8% and a face value of FV = £100. The quoted yield on a 1-year (UK) CD is 8.5%.
   (a) What is the (one-year) holding period return HPR (yield) on the T-Bill and the CD ?
   (b) Which gives the highest 'return' (if held to maturity) ?

6. A UK, CD has a *'quoted'* current yield y = 10% p.a. and a face value of £1m. It now has 60 days to maturity but when it was issued it had an original maturity of 120 days and a quoted yield of y = 12% p.a. (Day count convention is actual/365). Calculate :
   (a.) the current market price P, of the CD
   (b.) check that at this price, you will earn 10% over the remaining life of the CD.

7. The continuously compounded yield on a 180-day CD, is 10.3% pa and on a 180-day T-Bill the yield is 10.4% pa. using discrete compounding, every 90-days. Assuming both instruments use a day count convention of actual/360 which one provides the higher return?