

## EC 247 Financial Instruments and Capital Markets

### Class Exercise 8

These questions reflect the topics on option contracts and swaps which are addressed in chapter 24 of the Frederic S. Mishkin and Stanley G. Eakins, *Financial Markets and Institutions*, 7<sup>th</sup> Edition, Pearson Prentice Hall, 2012.

#### Question 1

Why does a lower strike price imply that a call option will have a higher premium and a put option a lower premium?

#### Question 2

Assume that the spot price, of the EMI share, on 9th June 2005 was 254p. Also, assume that Mr A buys a call option with a strike price of 260p for December 2005. The premium is 20p per share and so he has paid £200 (=1000 x 20p), (ignoring transaction costs).

Assume the following spot prices for EMI shares in December 2005, and work out the consequences:

- i) Share price < 260p.
- ii) Share price >260p.
- iii) Share price is 275p.
- iv) Share price is 285p.

#### Question 3

An investor has £1000 to spend and is considering buying shares in Megabucks plc at £2 each whose price he thinks will rise in the next 6 months to around £3. One strategy is to buy 500 shares. If the prediction is correct, the shares can be sold for a profit of £1500 – £1000 = £500, on an outlay of £1,000. Suppose, however, that 6- month call options are available with a strike price of £2.40 at a premium of 20p per share. An alternative strategy is to use the £1,000 to buy 5 calls (= 5,000 shares).

Suppose that the prediction is correct and the price is £3 per share in 6 months time.

- a) What is the investor's profit?
- b) What is the position if the price fails to reach £2.40?

#### Question 4

A swap agreement calls for Durbin Industries to pay interest annually based on a rate of 1.5% over the one year T-Bill rate, currently 6%. In return, Durbin receives interest at a rate of 6% on a fixed rate basis. The notional principal for the swap is \$50,000. What is Durbin's net interest for the year after the agreement?