

系所組：財務金融學系碩士班

日期節次：101 年 3 月 17 日第 3 節 13:00~14:30

M-8-6

科目：財務管理

Note: a. Calculator can be used to solve the questions. b. 25% for each question.

c. Answer questions in English or Chinese.

1. V Enterprises is considering whether to lease or buy some special manufacturing equipment to be placed on a new production line. The net cash flows associated with owning the equipment are as follows. The initial purchase price is \$1,000,000; the net cash inflows (after tax considerations) in Years 1 through 5 are: Year 1 = \$104,000; Year 2 = \$152,000; Year 3 = \$100,000; Year 4 = \$72,000; Year 5 = \$128,000. The lease agreement calls for five beginning-of-year payments. The net cash outflow of each payment (after tax considerations) is \$137,750. Compare the present values of the two alternatives using the relevant after-tax discount rate of 8 percent. What is the net advantage to leasing the equipment?
2. Motor Homes Inc. (MHI) is presently in a stage of abnormally high growth because of a surge in the demand for motor homes. The company expects earnings and dividends to grow at a rate of 20 percent for the next 4 years, after which time there will be no growth ($g = 0$) in earnings and dividends. The company's last dividend was \$1.50. MHI's beta is 1.6, the return on the market is currently 12.75 percent, and the risk-free rate is 4 percent. What should be the current common stock price?

3. A stock market analyst has forecasted the following year-end numbers for Raedebe Technology:

Sales	\$70 million
EBITDA	\$20 million
Depreciation	\$ 7 million
Amortization	\$ 0

The company's tax rate is 40 percent. The company does not expect any changes in its net operating working capital. This year the company's planned gross capital expenditures will total \$12 million. (Gross capital expenditures represent capital expenditures before deducting depreciation.) What is the company's forecasted free cash flow for the year?

4. An analyst is interested in using the Black-Scholes model to value call options on the stock of Ledbetter Inc.

The analyst has accumulated the following information:

- The price of the stock is \$40.
- The strike price is \$40.
- The option matures in 3 months ($t = 0.25$).
- The standard deviation of the stock's returns is 0.40 and the variance is 0.16.
- The risk-free rate is 12 percent.

Given this information, the analyst is then able to calculate some other necessary components of the Black-Scholes model:

- $d_1 = 0.25$.
- $d_2 = 0.05$.
- $N(d_1) = 0.5987$.
- $N(d_2) = 0.5199$.

$N(d_1)$ and $N(d_2)$ represent areas under a standard normal distribution function. Using the Black-Scholes model, what is the value of the call option?