

## 國立東華大學管理學院 106 第 1 學期 財務管理 期中考試

- ✧ 計算題務必寫出過程、使用千分位符號(,)以及小數點標示清楚
- ✧ 若題目沒有特別說明，請計算至小數點以下第 2 位，第 3 位四捨五入。表示方式如 1,234.56，78.09%。
- ✧ 滿分 120 分

1. (15分) Use the table for the question(s). Suppose that over the next year the economy is equally likely to strengthen or weaken. Security A will pay investors \$840 if the economy is strong and nothing if it is weak. Security B will pay investors \$840 if the economy is weak and nothing if it is strong. Today, the market price of security A is \$350 and security B is \$450.

Security	Market Price	Cash Flow in One Year	
	Today	Weak Economy	Strong Economy
A	350	0	840
B	450	840	0
C	???	840	4200

- (1). (2 分) What is the risk-free rate?
  - (2). (3 分) What is the expected return of security A? What is its risk premium?
  - (3). (3 分) What is the expected return of security B? What is its risk premium?
  - (4). (3 分) Why does the expected return of a risky security generally differ from the risk-free interest rate? What determines the size of its risk premium?
  - (5). (4 分) Suppose that security C will pay investors \$840 if the economy is weak and \$4200 if it is strong. And security C has a risk premium of 30%. What is the no-arbitrage price of security C? What arbitrage opportunity would be available?
2. (10分) Suppose a risky security pays an expected cash flow of \$83 in one year. The risk-free rate is 3.5%, and the expected return on the market index is 10.5%.
- (1). (5 分) If the returns of this security are high when the economy is strong and low when the economy is weak, but the returns vary by only half as much as the market index, what risk premium is appropriate for this security?
  - (2). (5 分) What is the security's market price?

3. (12分) You are offered an investment opportunity in which you will receive \$25,000 in one year in exchange for paying \$23,000 today. Suppose the risk-free interest rate is 6% per year.
  - (1). (6 分) Should you take this project? Why?
  - (2). (6 分) If you don't have the \$23,000 needed to cover the initial cost of the project? Does the project still have the same value? Why?
4. (15分) 財務槓桿
  - (1). (5 分) 請問衡量公司的財務槓桿 (leverage) 的意義為何？
  - (2). (10 分) 一般會使用負債權益比率定義財務槓桿，為什麼負債權益比率的分子不應該包括應付帳款卻包含一年內到期之長期負債和長期負債？請問向銀行短期借款這個項目要不要納入負債權益比率的分子的計算？為什麼？
5. (10分) You are analyzing the leverage of two firms and you note the following (all values in millions of dollars):
 

	Debt	Book Equity	Market Equity	EBIT	Interest Expense
Firm A	495.8	297.7	401.1	106.8	45.2
Firm B	83.8	38.3	35.9	8.4	7.5

  - (1). (2 分) What is the market debt-to-equity ratio of each firm?
  - (2). (2 分) What is the book debt-to-equity ratio of each firm?
  - (3). (4 分) What is the interest coverage ratio of each firm?
  - (4). (2 分) Which firm may have more difficulty meeting its debt obligations? Explain.
6. (30分) 代理問題與資訊不對稱。
  - (1). (4 分) 誰是公司的所有權人？
  - (2). (4 分) What does the phrase *limited liability* mean in a corporate context?
  - (3). (4 分) 為什麼公司(股份有限公司)會有代理問題？
  - (4). (5 分) 要如何利用公司治理機制的大股東以及專家的監督來解決股東和管理當局之間的代理問題？
  - (5). (5 分) Are hostile takeovers necessarily bad for firms or their investors? Explain.
  - (6). (3 分) 當敵意接管發生後，目標公司的可能抵抗策略有哪些（至少寫出三個策略，並簡述這些策略的意義）？
  - (7). (5 分) 根據研究顯示，如果某公司有預計投資國外新據點，若公司的融資來源為

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舉債，一般而言，市場投資人將會有顯著正向反應，也就該公司股價會上升。請用財務理論解釋此現象。

7. (12分) You are thinking of retiring. Your retirement plan will pay you either \$100,000 immediately on retirement or \$140,000 five years after the date of your retirement. Which alternative should you choose if the interest rate is:
- (1). 0% per year?
  - (2). 8% per year?
  - (3). 20% per year?
8. (8分) You are 23 years old and decide to start saving for your retirement. You plan to save \$5500 at the end of each year (so the first deposit will be one year from now), and will make the last deposit when you retire at age 65. Suppose you earn 10% per year on your retirement savings.
- (1). How much will you have saved for retirement?
  - (2). How much will you have saved if you wait until age 39 to start saving (again, with your first deposit at the end of the year)?
9. (8分) As winner of a breakfast cereal competition, you can choose one of the following prizes:
- A. \$100,000 now.
  - B. \$180,000 at the end of six years.
  - C. \$12,400 a year forever.
  - D. \$20,000 for each of 8 years.
  - E. \$6,500 next year and increasing thereafter by 5 percent a year forever.

If the interest rate is 12%, which is the most valuable prize? Why?