金融机構新市場管理、財務工程新金融創新組國立政治大學九十七 學年度研究所稱士班入學考試命題纸。

- Explain the following terms briefly (each 4 points, total 28 points).
 - (1) Abnormal return
 - (2) Consol
 - (3) CMOs
 - (4) Hedge ratio (Delta)
 - (5) LBO
 - (6) Liquidity premium
 - (7) Weak-form efficient market
- Computational problems (each 6 points, total 30 points)
 - (1) The Chinese economy is predicted to average double digit inflation over the next two years of 12% per annum. The inflation forecast for the US is 2.5% per annum. If the current exchange rate is US\$0.13/RMB, what will be the exchange rate two years from now (US\$/RMB)?
 - (2) Consider a bond with a face value of \$1,000, a coupon rate of 0%, a yield to maturity of 9%, and ten years to maturity. What is the duration of this bond?
 - The following table gives the available projects for a firm:

Project	Α	В	С	D	E	F	G
Initial investment	90	20	60	50	150	40	20
NPV	140	70	65	-10	30	32	10

If the firm has a limit of 210 million to invest, what is the maximum NPV the company can obtain?

- (4) The market value of NCCU Corporation's common stock is \$20 million, and the market value of its risk-free debt is \$5 million. The beta of the company's common stock is 1.25, and the market risk premium is 8%. If the Treasury bill rate is 5%, what is the company's cost of capital? (Assume that there are no taxes.)
- (5) Suppose NCCU's stock price is currently \$20. In the next six months it will either fall to \$10 or rise to \$40. What is the current value of a six-month call option with an exercise price of \$12? (Assume that the six-month risk-free interest rate is 5%).

(簽章)

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國立政治大學九十 少 學年度研究所博士班入學考試命題紙 第 2頁, 共2頁

考战科目 对移览理 所别全部 4123 考战時間 3月16日第1節

- III. Answer the following questions briefly (each 8 points, total 24 points).
 - (1) Considering two different financial systems one is market-based and the other is bank-based. Please explain which financial system emphasize "transparency" more, and why?
 - (2) Company Z-Speed has issued a 5-year coupon bond and company A-tom has issued a zero-coupon bond with the same maturity. Explain which company's debt is more difficult to value, and why?
 - (3) An option analyst argue that "the writer of the call and the buyer of the put both hope that the stock price will decline. Therefore the two positions are identical." Is this analyst correct? Please explain with diagrams.
- IV. Questions (each 9 points, total 18 points)
 - (1) Consider the following two tickets: ticket A pays \$100 if Mr. Hsieh is elected as president, ticket B pays \$100 if Mr. Ma is elected. Could the two tickets sell for less than the present value of \$100? Could they sell for more? What are the implications for MM's proposition I?
 - (2) In Zombie Republic, the top personal income tax rate is 40%. This rate applies to interest and dividends. Capital gains are tax free, providing that realized gains do not exceed an annual allowance of \$10,000.

All the individual stockholders of Super Group are in the top Zombie's tax bracket, but manage their portfolios so that realized capital gains never exceed their annual allowances. Suppose that the Group's effective corporate tax rate is 30%. How does the **sum** of corporate and personal taxes change if the Group:

- (a) Operates at a higher or lower debt ratio?
- (b) Increases or reduces cash dividend payout, holding capital investment and debt constant?
- (c) Given your answers to (a) and (b), how would you advise the Group about debt and dividend policy?

传 考 改题随卷敞交 (茶章) 97年 3月4日

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