

國立中央大學八十七學年度碩士班研究生入學試題卷

所別: 財務管理研究所 甲丁組 科目: 財務管理 共 2 頁 第 1 頁

1. Capital Budgeting Decisions - Projects with Unequal Lives (15%)

Florida Canning Company must replace one of its fully depreciated canning machines. Two new models are available: Machine A, having a cost of \$100,000, an expected life of 3 years, and before-tax cash flow savings of \$55,000 per year, and Machine B, having a cost of \$200,000, an expected life of 5 years, and before-tax cash flow savings of \$80,000 per year. Machine A falls into the MACRS 3-year class, while Machine B falls into the MACRS 5-year class. Both machines will have an expected salvage value equal to their book value at the end of their expected lives. Technological improvements are expected so that any machine purchased after 3 years will provide after-tax profit plus depreciation cash flows that are 20 percent higher than present cash flows. However, machinery prices in 3 years are projected to rise by 20 percent, offsetting the increased cash flows. After that time, Florida projects that machinery prices and cash flows will be constant. The firm's cost of capital is 15 percent and its corporate tax rate is 40 percent. If the replacement is to be made, it must be done now. The MACRS recovery allowance percentages for 3- and 5-year assets are as follows:

Year	Recovery Allowance	
	3-year Asset	5-year Asset
1	33%	20%
2	45	32
3	15	19
4	7	12
5		11
6		6
	100%	100%

- What is Machine A's regular NPV?
- What is Machine B's regular NPV?
- What is Machine A's EAA (equivalent annual annuity)?
- What is Machine B's EAA (equivalent annual annuity)?
- Should Florida Canning Company replace the old machine with one of these two models? If so, with which one and why?

2. Capital Budgeting - Cash Flow Estimation (15%)

Within the context of capital budgeting, for each of the following terms, provide a definition, state whether it should be included in the cash flow estimation, and explain why or why not.

- Opportunity costs
- Sunk costs
- Externality

3. Capital Structure (10%)

Explain the difference between business risk and financial risk. Discuss how each is measured in a total risk framework. Discuss how each is measured in a market risk framework. Use standard deviation and beta measures to illustrate.

- The value of a stock share is a function of three elements. What are the three elements? Describe them and show the feasible procedures of estimating the elements. (10%)

- In the late 1980s, Japanese price-earning ratios were much higher than those in the United States, and Japanese dividend yields were much lower. Long-term nominal interest rates in Japan were about 4% lower than those in the United States; real interest rates were estimated to be about 1% lower.

	Japan	United States
Price-earning ratio	32.1	11.7
Dividend yield (percent)	0.6	3.0
Nominal interest rate (percent)	4.8	9.2
Estimated real interest rate (percent)	3.0	4.1

- Does this information suggest or imply that expected rates of return demanded by investors were lower in the Japanese market than in the U.S. market? Before you answer, be sure to think through the possible explanations of the Japanese market's higher price-earnings ratio and lower dividend yield. (10%)

- Diversification has enormous value to investors, yet opportunities for diversification should not sway capital investment decisions by corporations. How would you explain this apparent paradox? (10%)

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注意：背面有試題

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7. The Homemade Bread Company buys and then sells (as bread) 2.6 million bushels of wheat annually. The wheat must be purchased in multiples of 2,000 bushels. Ordering cost, which include grain elevator removal charges of \$3,500, are \$5,000 per order. Annual carrying costs are 2 percent of the purchase price of \$5 per bushel. The company maintains a safety stock of 200,000 bushels. The delivery time is six weeks.

- (a). What is the EOQ (Economic Ordering Quantity)?
(b). At what inventory level should an order be placed to prevent having to draw on safety stock?
(c). What are the total inventory costs, including the costs of carrying the safety stock?
(d). The wheat processor agrees to pay the elevator removal charges if Homemade Bread will purchase wheat in quantities of 650,000 bushels. Would it be to Homemade Bread's advantage to order under this alternative?(15%)

8. Aggressive Incorporated wishes to make a tender offer for the Passive Company. Passive has 100,000 shares of common stock outstanding and earns \$5.5 per share. If it were combined with Aggressive, total economies of \$1.5 million could be realized. Presently the market price per share of Passive is \$55. Aggressive makes a two-tier tender offer: (1). \$65 per share for the first 50,001 shares tendered and (2). \$50 per share for the remaining shares.

- (a). If successful, what will Aggressive end up paying for Passive? How much incrementally will stockholders of Passive receive for the economies?
(b). Acting independently, what will each stockholder do to maximize his or her wealth? What might they do if they could respond collectively as a cartel?
(c). How can a company increase the probability of individual stockholders resisting too low a tender offer?
(d). What might happen if Aggressive offered \$65 in the first tier and only \$40 in the second tier?(15%)

Table with multiple columns (likely interest rates and values) and rows of data. Includes a small diagram of a calculator interface at the bottom center.