

臺灣期貨交易所 99 年新進人員招募試題

甄選類別【代碼】：業務人員【79101】

專業科目：投資學、財務管理

*請填寫入場通知書編號：_____

注意：①本試卷為一張單面，共有 6 大題之非選擇題，其中 4 題配分各為 15 分，2 題配分各為 20 分。
 ②限用藍、黑色鋼筆或原子筆於答案卷上採英文橫式作答（以中文作答者，該題不予計分），並請從答案卷內第一頁開始書寫，違反者該科酌予扣分。所有題目不必抄題但須標示題號。
 ③應考人得使用簡易型計算機；於測驗時將不符規定之電子計算機放置於桌面或使用，若經勸阻無效，仍執意使用，該科扣 10 分；計算機並由監試人員保管至該節測驗結束後歸還。
 ④答案卷務必繳回，未繳回者該科以零分計算。

題目一：

Consider an investor holding 100 ounces of gold, who is short one gold futures contract. Suppose that gold today sells for \$891 an ounce, and the futures price for June delivery is \$896 an ounce. Therefore, the basis is currently \$5. Tomorrow, if the spot price increases to \$895, while the futures price increases to \$898.5, so the basis narrows to \$3.5. How much are the investor's gains or losses in this case? 【15 分】

題目二：

- a. You have just read an advertisement reading, “pay us \$10,000 a year for 4 years and we will pay you \$10,000 a year thereafter in perpetuity.” If this is a fair deal, what is the rate of interest? 【7 分】
- b. An 8% coupon, 30-year maturity bond with par value of \$1,000 paying semiannually. Suppose that the interest rate is 10% annually. Refer to the following tables, determine the value of the bond. 【8 分】

Table of PVIF

Table of PVIFA

n \ k	4%	5%	8%	10%	20%	n \ k	4%	5%	8%	10%	20%
1	0.962	0.952	0.926	0.909	0.833	1	0.962	0.952	0.926	0.909	0.833
10	0.676	0.614	0.463	0.386	0.162	10	8.111	7.722	6.671	6.145	4.192
30	0.308	0.231	0.099	0.057	0.026	30	17.292	15.372	11.258	9.427	4.979
60	0.095	0.054	0.010	0.003	0.000	60	22.624	18.929	12.377	9.967	5.000

題目三：

- a. Based on your knowledge, how much you know about the so called systematic risk, β ? 【5 分】
- b. Do you think the assumption of “**constant**” risk market model (CRM) reasonable? 【5 分】
- c. What is the difference between Sharpe Index and Treynor Index? 【5 分】
- d. Relating question (c) to β risk, is there any irony? 【5 分】

題目四：

Sino-1111, Inc. has average accounts receivable of HK\$125 million and average inventory of HK\$190 million. Sales for the year were HK\$1,000 million, and cost of goods sold averaged 60 percent of sales. How many useful financial ratios can you calculate from this information? List and calculate these ratios. 【15 分】

題目五：

- a. Titan Industries has 217 million shares outstanding and expects earnings at the end of this year of \$860 million. Titan plans to pay out 50% of its earnings in total, paying 30% as a dividend and using 20% to repurchase shares. If Titan's earnings are expected to grow by 7.5% per year and these payout rates remain constant, determine Titan's share price assuming an equity cost of capital of 10%. 【10 分】
- b. The expected return on Coca-Cola's equity is 12.5%, and the firm has a yield to maturity on its debt of 6%. Debt accounts for 35% and equity for 65% of Coca-Cola's total market value. If its tax rate is 25%, what is this firm's WACC? 【5 分】

題目六：

Assume the risk-free rate is 6%, the market risk premium is 9%, and the projects plot in relation to the security market line as follows.

Project	Beta	IRR
A	2.0	25%
B	1.6	22%
C	1.1	15%
D	0.8	11%

Please answer the following questions and list the calculating processes: 【20 分】

- a. Which project(s) should be undertaken?
b. Which project(s) should be rejected?