

國立臺灣科技大學
九十四學年度博士班招生考試試題

系所組別：財務金融研究所
科目：財務管理

總分 100 分

1. (25 分)

- a. 人民幣目前受到美國要求其升值的壓力，它是否會升值？為什麼？
- b. 人民幣升值對台幣有何影響？對台灣的企業又有何影響？

2. (25 分)

- a. 台灣的股票市場是否有效率？如何驗證？
- b. 行為財務學對效率市場假說的見解為何？

3. Newly developed derivatives have been structured and issued in recent years. Of these securities, some of them are structured financial claims. Please explain "structured finance" and define CLO, CDO and CMO. In addition, try to structure a deal and show how the deal works and is valued and priced.

(25 points)

4. Based on Merton's *Consumption and Asset Management*, a consultant is helping a rich investor to allocate his personal wealth among current consumption, investment in a sure asset, and investment in a risky asset given there is no transaction costs. You are hired by the consultant to provide your client with investment strategy. Let us assume the change

in wealth is given by $dW = [s(1-w)W + awW - c]dt + wW\sigma dz$, where W is

total wealth, w the fraction of wealth in the risky asset, s the return on the sure asset, a the expected return on the risky asset, $a > s$, σ^2 the variance per unit time of return on risky asset, and c consumption. Utility function is c^b/b , and $b < 1$. Please help your rich client to maximize his expected discounted utility stream and find the optimal combination of consumption and investments in risky and sure assets, given the initial

wealth $W(0) = W_0$.

(25 points)

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