

Corporate Finance, Spring, 2014
Final Exam
Tuesday, June 10th, 2014

Writing time: 4 hours
Use of calculators is allowed

Points per each question as indicated. Maximum score is 85 points. 50% of the available points are required for a passing grade. In your answers to the essay questions, **avoid going beyond one page**. Make sure your answers are legible - if I cannot read it, I cannot grade it. A collection of financial formulas is provided on the last page for your convenience. Students in Hanken's Corporate Governance program can elect not to answer question 6.

1. For each question in this section, choose the one most correct option. Use your answer sheet to provide your answers to this section, and make sure that your choices are clear. **Unclearly marked choices do not score points.** (each of the 5 sub-questions below is worth 2 points)

1.1. Which of the following is NOT a benefit of bank debt, when compared to publicly traded debt?

- a) The free-rider problems are lower.
- b) More effective monitoring of the firm allows firm to raise debt at more economical terms.
- c) Renegotiation is easier.
- d) The potential hold-up problems.

1.2. According to Modigliani & Miller proposition I,

- a) firms should not have any debt.
- b) the optimal capital structure is based on a trade-off.
- c) firms maximize their value at 100% leverage.
- d) capital structure is irrelevant.

1.3. When uncertainty regarding a corporate capital investment increases, the value of the embedded real options

- a) increases.
- b) is reduced.
- c) is unaffected.
- d) goes to zero.

1.4. When a firm gets caught for fraudulent illegal behavior, the most significant part of the negative stock reaction tends to derive from

- a) costs related to law suits
- b) re-adjustment of the stock price to the level based on fraud-free behavior
- c) disruptions due to managerial turnover
- d) loss of reputation

1.5. In a "classical tax system",

- a) Dividend pay outs are tax deductible to the corporation.
- b) Capital gains taxes are taxed at the shareholders' marginal income tax rate.
- c) Dividends are tax free to their recipients, in order to avoid double-taxation.
- d) Dividend income is taxed as ordinary income.

2. Describe the lemons problem, and explain how it can be used to explain the typically negative stock reaction to corporate stock issues (15 points).

3. What is debt tax shield? How should existence of debt tax shields affect firms' capital structure decisions? Discuss the incentives of firms with persistent losses and tax loss carry-forwards to carry debt, compared to other firms (15 points).

4. Consider the following project:

- It has the projected cash flow of either €1 million or €1.5 million at the end of each year from commencement to infinity, with both outcomes being judged to be equally likely.
- After 2 years, the true cash flows to the future will be revealed, either as €1 million, or €1.5 million.
- The total cash flow required to build the project is €16 million, and that amount is assumed to stay fixed to the future
- Your company's WACC is 6.5%
- Your company can either build the project now, or wait until the uncertainty is removed in year 2

What is the value of the embedded option, and what kind of an option is it (15 points)?

5. On the basis of the guest lecture by Tuukka Seppä of BCG, explain how a company in strategy crisis can be vulnerable to external events, and how those vulnerabilities can affect the firm's future prospects (15 points).

6. How does corporate diversification differ from portfolio diversification, and what are the implications for the types of mergers a company should pursue?

Note: This question is not mandatory for students in Hanken's Corporate Governance program. (15 points)

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$$FV_n = PV(1+i)^n = PV(FVIF_{i,n})$$

$$FV_n = PV\left(1 + \frac{i}{m}\right)^{mn}$$

$$PV = FV_n \left[\frac{1}{(1+i)^n} \right] = FV_n(PVIF_{i,n})$$

$$FV_n = PMT \left[\frac{(1+i)^n - 1}{i} \right] = PMT(FVIFA_{i,n})$$

$$PV = PMT \left[\frac{1 - [1/(1+i)^n]}{i} \right] = PMT(PVIFA_{i,n})$$

$$PV = \frac{PP}{i}$$

$$k_j = k_{rf} + \beta_j(k_m - k_{rf})$$

$$P_b = \sum_{t=1}^n \frac{Coup_t}{(1+k_d)^t} + \frac{Mat}{(1+k_d)^n}$$

$$YTM = \frac{Coup + \frac{Par - Market}{n}}{\frac{Par + 2(Market)}{3}}$$

$$P_p = \frac{Div}{k_p}$$

$$V_{cs} = \frac{D_1}{k_{cs} - g}$$

$$g = ROE * r$$

$$WACC = w_d k_d (1-t) + w_{ps} k_{ps} + w_{cs} k_{cs}$$

$$r = \frac{(1+n)}{(1+i)} - 1$$

