Corporate Finance, Spring, 2009
Final Exam
Saturday, May 15th, 2010

Writing time: 5 hours
Use of calculators is allowed

Points per each question as indicated. Maximum score is 90 points for Corporate Finance (8 ECTS) students, and 75 points for Corporate Governance (6 ECTS) students. **The Corporate Governance students do not answer question number 6.** 50% of the available points are required for a passing grade. In your answers to the essay questions, avoid going beyond one page. In numerical questions, show your work leading to your answer. A collection of financial formulas is provided on the last page for your convenience.

1. Assume a project with the following cash flows:

year	CF
0	-830
1	530
2	530
3	530
4	-1200
5	530
6	530
7	530
8	-1200

In separate calculations, calculate the NPV of the project if the firm's cost of capital is either 3%, 9%, or 15%. Would you recommend that the firm takes the project if its WACC is estimated to be somewhere between 9% and 11%? Without calculations, discuss the merits of using the IRR method to evaluate this project (10 points).

2. Corporate R&D projects are often very cost-intensive and time-consuming. Furthermore, payouts from them tend to be highly uncertain. How can we explain large corporate investments in such high risk projects? Discuss in detail what types of factors in an R&D project would make it a more attractive investment for a corporation (15 points).

3. Overinvestment and underinvestment problems both plague firms with increasing levels of financial distress. Illustrate how each of the two problems affects corporate value, and discuss the implications (15 points).

4. a) As discussed during our guest lecture, Chrysler Corporation filed for Chapter 11 renegotiation bankruptcy at the end of April, 2009. Discuss the merits of renegotiation bankruptcy, compared to liquidation bankruptcy. How can even debt holders benefit from renegotiation (10 points)?

   b) After the renegotiations, Chrysler's ownership structure is as follows:

United Auto Workers	67.7%
US Treasury	9.8%
Canada	2.5%
Fiat	20.0%

   Discuss the corporate governance implications of this ownership structure by focusing on incentives and willingness to corporate risk-taking (10 points).

5. Why do different dividend clienteles exist? What are the implications of their existence for corporate management? Do firms tend to take their ownership structure into account when making payout decisions (15 points)?

6. **STUDENTS ENROLLED IN HANKEN'S CORPORATE GOVERNANCE PROGRAM DO NOT ANSWER THIS QUESTION** What is debt tax shield? How should existence of debt tax shields affect firms' capital structure decisions? If the debt tax shield were the only factor affecting firms' capital structure decisions, what type of leverage percentages should we observe? Discuss the incentives of firms with persistent losses and tax loss carry-forwards to carry debt, compared to other firms (15 points).

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

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

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

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

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

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

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

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

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

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

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

$$g = ROE * r$$

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

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