Spring 2007 Name:

Quiz 3: Corporate Finance

Answer all questions and show necessary work. Please be brief. This is an open books, open notes exam.

1. You are helping the CFO of a steel company assess whether the firm should embark on a plan to reduce its financial leverage. The firm currently has equity with a market value of $ 600 million and debt outstanding (in market value terms) of $ 1200 million. The cost of equity currently is 15% and the pre-tax cost of borrowing is 9%. (The riskfree rate is 5% , the tax rate is 40% and the equity risk premium is 4%)
   a. Estimate the current cost of capital for the firm. (1 point)

   b. The firm plans to issue new stock and retire half of its existing debt. If the pre-tax cost of borrowing will drop to 6% as a consequence, estimate the cost of capital after the recapitalization. (2 points)

2. Williams Inc. is a small, sporting goods firm, with 50 million shares outstanding, trading at $ 4 a share, and $ 50 million in debt; the firm's current cost of capital is 10%. The firm is planning to recapitalize by borrowing an additional $100 million and buying back shares, thus lowering its cost of capital to 9%.
   a. Assuming no growth in savings over time, estimate the change in firm value from moving to the new debt ratio. (1 point)

b. Now assume that the firm does buy back shares at $5/share. Estimate the increase in value per share for the remaining shares. (3 points)

3. FD Enterprises is a manufacturing firm in two businesses - technology and telecommunications, with very different characteristics:

Business	Estimated value	Typical asset duration
Technology	$ 10 billion	2 years
Telecommunication	$ 10 billion	10 years

The firm currently has $ 5 billion in debt with a duration matched up the existing asset duration. The firm is considering a management-led buyout, where it will

i. Sell half of the telecommunications business for $5 billion
ii. Borrow an additional $5 billion in zero-coupon bonds
iii. Buy back stock with the proceeds (from the asset sale and the bond issue)

If FD plans to match up the duration of its assets to that of its debt after this transaction, estimate the maturity of the new zero coupon bonds. (3 points)