Question 2: Corporate Finance (40 points)

The table below contains the balance sheet (book value) of Company ABC as of December 31, 2004. The short-term debt is a 250 million euro bank loan at 6% interest. The bonds, of which face value is 800 million euros, are straight bonds maturing in 2014 with a coupon rate of 7.8% paid once a year at the end of the year. At the end of 2004, the yield to maturity was 8.1% with a bond price of 98.00 euros per 100 euros par value. ABC has 50 million shares issued and outstanding. At the end of 2004, the share price was 40 euros.

Table: Company ABC's Balance Sheet (December 31, 2004; million euros)

Assets		Liabilities and equity	
Cash	150	Accounts payable	600
Accounts receivable	800	Short-term debt	250
Inventories	700	Total current liabilities	850
Total current assets	1,650	Bonds	800
Tangible fixed assets	1,200	Deferred tax	350
Other fixed assets	650	Shareholders' equity	1,500
Total assets	3,500	Total liabilities and equity	3,500

a) To estimate the after-tax weighted average cost of capital (WACC), you need to determine the capital structure. When doing this, explain how you should handle the accounts payable and deferred tax that are included in ABC's balance sheet. (8 points)

b) Knowing that in December 2004, the risk-free rate was 5%, the stock market risk premium 6% and the beta of ABC's shares 1.20, calculate ABC's after-tax weighted average cost of capital based on the following assumptions:
(1) the capital structure at the end of 2004 is equivalent to the target capital structure;
(2) the book and market values of short-term-debt are equivalent; and
(3) the company's marginal corporate tax rate is 40%. (9 points)

c) ABC is studying whether to undertake an investment project worth a total of 500 million euros in order to substantially strengthen capacity in its mainline businesses. Its investment decision-making policy requires the calculation of the net present value of the project (NPV) using the after-tax WACC as the discount rate. The procedure the company uses to estimate the after-tax cash flows clearly indicates that the interest expenses should not be included. Explain why ABC assumes 100% equity financing when estimating the cash flows even though it does in fact finance part of the investment with debt. (4 points)

d) For this project, the NPV was negative, with the implication that the company should not accept it. Then Mr. Anderson, the head of the department proposing the project, argued that the discount rate used to calculate NPV was too high. He claimed, *"The entire investment for the project should be funded with bond issues, and when calculating NPV we should use the cost of debt as the discount rate."* Do you agree with Mr. Anderson's argument? Provide two reasons supporting your point of view.(6 points)

e) The XYZ investment bank proposes a deal in which ABC would reduce its WACC by issuing 300 million euros in bonds and using the proceeds to repurchase shares, thereby increasing ABC's debt ratio and allowing it to take advantage of increased tax benefits. You are to consider below how much ABC would be able to reduce its WACC by accepting the deal. For simplicity assume: (1) the deal will not have a signaling effect on the capital markets; (2) the deal will not affect interest rates on ABC's long-term debt; and (3) transaction costs can be ignored.

e1) Assuming the liability beta to be zero, calculate the asset beta of ABC. (3 points)

e2) Estimate the change in ABC's firm value from the tax benefits that arise with the 300 million euro bond issue. (3 points)

e3) Calculate the cost of ABC's shareholders' equity after it issues the bond and repurchases shares as proposed by XYZ. (7 points)