FIN 303BH
Fall 2018
Professor Dow

Evaluating the AI Project at Cyberdyne

You are a financial analyst working for Cyberdyne Systems, a Northern California computer technology company. The research and development division of the company has developed a new microprocessor which will significantly improve the performance of artificial intelligence systems. The company has considering making a bid to develop a computerized artificially intelligent weapons management system for the US Department of Defense. It is your job to determine the financial viability of this project.

Write a one-page memo answering the following questions (with supporting calculations attached).

1) Assuming the most-likely projections of future costs, what is the smallest amount the company could bid? Assume the payments to the company will be made evenly over 20 years starting in year 1.

2) Assuming design and maintenance costs are at their high end, what is the smallest amount the company should bid? Does uncertainty about design costs or maintenance costs have the biggest effect on the minimum bid?

Pro Forma Income Statement for the upcoming year

Revenue	$200m
Operating Ex.	$150m
EBIT	$50m
Interest	$10m
Taxes	$10m
Earnings	$30m

These numbers apply to year 1. Assume that the company will reinvest 60% of its earnings and pay the remainder as dividends. It is expected that earnings will grow indefinitely at 8%.

The Capital Structure.

The company has issued 100,000 10% semiannual bonds with a par value of $1,000 and a maturity of 10 years. The bonds sell for $1,100. Currently there are 10m shares outstanding at a market price of $25/share. Assume that the company's target capital structure equals their current market capital structure.

Projected Costs of the Project

In year 1, it will cost $40M to begin the product. For years 2-6, the development costs are expected to be $60M per year, although the actual costs could be plus or minus 30%. In years 7-20 the company will be responsible for maintenance costs of $8M per year, although the actual costs could be plus or minus 75%. The contract ends after the 20 years.

Other Assumptions

You can use the average tax rate paid when making your calculation of the cost of debt. Use the market required return assuming constant dividend growth in your calculation of the cost of equity.