**E. I. du Pont de Nemours and Co: Titanium Dioxide Case**

1. Given the forecasts provided in the case, estimate the incremental net income and free cash flows associated with each of the two strategies i) Growth Strategy and ii) Maintain Strategy du Pont is considering for the TiO2 market. Use du Pont’s WACC calculated in question #3 below and an estimated growth rate to determine the terminal values for the Maintain & Growth strategies\*\*. Show your calculation of each. (60 pts)
2. Identify the forecast uncertainties that underly these future cash flows? Explain how you would quantify the impact of such uncertainties in your analysis? (10 pt)
3. In 1972, bond yields and inflation were approximately as follows:

Long-term Treasuries: 6.2%

AAA Corporate Bonds: 7.2%

BBB Corporate Bonds: 7.8%

Inflation rate (CPI): 3.2%

Assume du Pont’s credit rating in 1972 was “A” as rated by S&P

Estimate du Pont’s cost of equity, cost of debt & WACC. Outline your methodology and assumptions in determining each of these measures. (10 pt)

1. Use NPV analysis to determine which strategy is the most attractive? (Hint: once you get incremental cash flows for each strategy, you can determine the present value of the difference between the two and arrive at your recommended course of action). (20 pt)

Note on Investment Tax Credit

A 10% investment tax credit (ITC) means that your federal tax expense is reduced by an amount equal to 10% of capital expenditures made during the year.

For example, assume your federal taxes for the year (before any investment tax credit) is $20 million. During the year you had $50 mil worth of capital expenditures (e.g. new equipment and building renovations to expand TiO2 production). A 10% ITC means your federal tax bill is reduced by 10% of the firm's capital expenditures during the year. In this example, the $20 mil in federal taxes is reduced by the $5 mil ITC (10% of \* $50 mil investment).

As long as the firm is a taxpayer during the year, an ITC impacts incremental after-tax NI and cash flow due to any cap ex made during the year.

\*\*Use the formula below for PV of a growing perpetuity to calculate terminal value of the Growth and Maintain scenarios in 1985:

Where:

PVn = Terminal value in year “n”

CFFAn+1 = cash flow from assets in year n+1

rWACC = du Pont’s weighted average cost of capital

g = growth rate of future CFFA after period “n”

It would make sense to use a higher growth rate when calculating terminal value for the Growth scenario than for the Maintain scenario.

In your terminal value calculations, please make sure you state your growth assumptions used for each scenario and justify your assumption. Merely stating ..."we used xx% growth rate for the Growth scenario and yy% growth rate for the Maintain scenario" will not be acceptable. You must explain your rationale for these growth assumptions based on the information provided in the case regarding Du Pont’s two strategies for the TiO2 market.

Upload your submission via Canvas.