DCF Valuation Tutorial

Question 1: (value drivers)

Consider a company with sales of € 500 million at time $t = 0$. Due to a new investment project, the company expects to enjoy strong growth (8% per year) at a considerable operating margin (29%) for the next five years. After a two-year adjustment phase (you may use a linear interpolation here), the company expects a long-run growth of 1% and an operating margin of 15%.

We use the following additional assumptions:

- PP&E is constant at 50% of (next period expected) sales
- Working capital is constant at 8% of (next period expected) sales
- Costs of capital (after-tax WACC) are 10%.
- Company tax rate is 35%.
- Depreciation rate is 15%. (Assume that the rate of economic depreciation equals the rate of tax accounting depreciation.)

a) Forecast the unlevered cash-flows of the company for years 1 to 8.

b) What is the company value at time 0?

c) If you vary the long-run growth rate, does the value of the firm change? Will the company be operating above or below its threshold margin over the horizon period? (Try to use "Tabelle…" from the "Daten" menu. You might want to check out the Excel help to find out more about this feature.)

d) What is the company's threshold (horizon) margin? (We are looking for a number, not a definition, here. The procedure "Zielwertsuche" from the "Extras" menu might be useful.)

e) In addition to the new investment, the company considers to undertake a big advertising campaign over the next five years. This would increase the growth rate from 8% to 10% over the next five years but would lead to a decrease of the operating margin over that period. The horizon growth rate and horizon operating margin would not change.
Should the company accept the 2 percentage points increase in growth for one percentage point reduction in the margin?
What is the maximum reduction of the margin the company should accept for increasing the growth rate by 2 percentage points?