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Practices No. 1 for Lectures 'Unternehmensbewertung'

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Exercise 1: Investment under tax, depreciation and debt capital with CB

Given is the following investment table:

Time	t_0	t_1	t_2	t_3	t_4
Investment	-3000				
Earnings		825	900	975	660
Resid./Scrap					450

Additionally given the parameters:

- Interest rate $p = 9.8\%$
- Maturity $T = 4$Y (t_0 bis t_4)

Taxes and depriciation:

- Depr. $= 4$Y, linear
- Tax rate $= 60\%$

Debt Capital:

- Debt Capital amaount $= 1500$
- Debt Capital interest rate $= 5\%$

Calculate the (three) tables according to the three effects.

Use Crystal Ball to add stochastic changes to the calculation tableau, with:

- Z_{t_k} bias is normal distributed: $\mu = 0$, $\sigma = 10\%$ of the estimation value
- p bias is normal distributed: $\mu = 0$, $\sigma = 0,02$
- Debt Capital interest rate bias: normal distributed, $\mu = 0$, $\sigma = 0,05$

Use 10000 simulation runs to calculate the mean, the standard deviation and the probability of loss for all 3 tables.

Exercise 2: Business Analysis and Corporate Value Forecsting

Given is the File 'Wert AG.xslx'.

The first worksheets contain historical data (Assets, Balance Sheet, P& L, Cash Flow).

After this a KPI calculation is done ('Wertreiber Historisch').

Then a KPI planning follows, used to forecast the Balance Sheet, etc.

At least a firm value calculation is given to estimate the value of the firms equity. The basis for this is the CAPM approach.

This planinng is done by guess (without statistical arguments) and is static (no risk calculations).

Do a better equity estimation by using Crystal Ball and regressions for the value estimations.

As distribution for CB use just normal distribution, standard deviation may be 10 % for quotients and 20 % for absolute values.

Document your calculations and interpret your results.

Exercise 3: Using a new CAPM apporach

For estimation of the firm value use the method of 'Accounting Beta". See the additional explanation document for this.

Also use Crystal Ball to estimate the firms risk related to this method.