

# Lecture 4

Tõnn Talpsepp, PhD, CFA, FRM

# FCFE

- Free cash flow to equity
  - $FCFE = CFO \text{ (cash flow from operations)} - \text{capital expenditures} + \text{net borrowing}$
  - $FCFE = \text{net income} + \text{non-cash charges} - \text{capital expenditures} - \text{increase in working capital} + \text{new debt} - \text{debt repayments}$
  - $FCFE = FCFF - \text{interest} * (1 - \text{tax rate}) + \text{net borrowing}$
- Investments into long term assets  $\Leftrightarrow$  capital expenditures
  - Work taking an average of a reasonable period (at least from certain point)
- **Use cost of equity for discounting**

# FCFF

- Free cash flow to the firm
  - $FCFF = CFO + \text{interest} * (1 - \text{tax rate}) - \text{capital expenditures}$
  - $FCFF = EBIT * (1 - \text{tax rate}) + \text{non-cash charges} - \text{capital expenditures} - \text{increase in working capital}$
  - $FCFF = \text{net income} + \text{interest} * (1 - \text{tax rate}) + \text{non-cash charges} - \text{capital expenditures} - \text{increase in working capital}$
- **Use weighted average cost of capital (WACC) for discounting**
- **Subtract debt from obtained result to get equity value**

# Depreciation and capital expenditures

- Make forecasts for shorter periods
- Consider to be equal from a certain period

# Terminal value

- Value of the cash flows beyond the forecasted period
  - E.g. you estimate cash flows for years 1-7 (in the future)
  - But company is expected to operate for more than 7 years
  - Terminal value is the value from year 8 to infinity

# Terminal value formula

- $TV_t = \frac{CF_t \times (1+g)}{k-g}$ 
  - TV – terminal value in year t (at last forecasted year)
  - CF – cash flows in year t (last forecasted year)
  - k – cost of capital (either WACC or cost of equity)
  - g – forecasted long-term growth rate
- You must discount TV to present value
  - E.g. if you estimate cash flows for years 1-7 (in the future)
  - Terminal value is the value from year 8 to infinity
  - You must discount TV as if it occurred in year 7 (year 7 is  $t$  in the formula)
    - Common mistake to use 8 but TV calculation already discounts cash flows from year 8 to infinity to year 7