Financial planning

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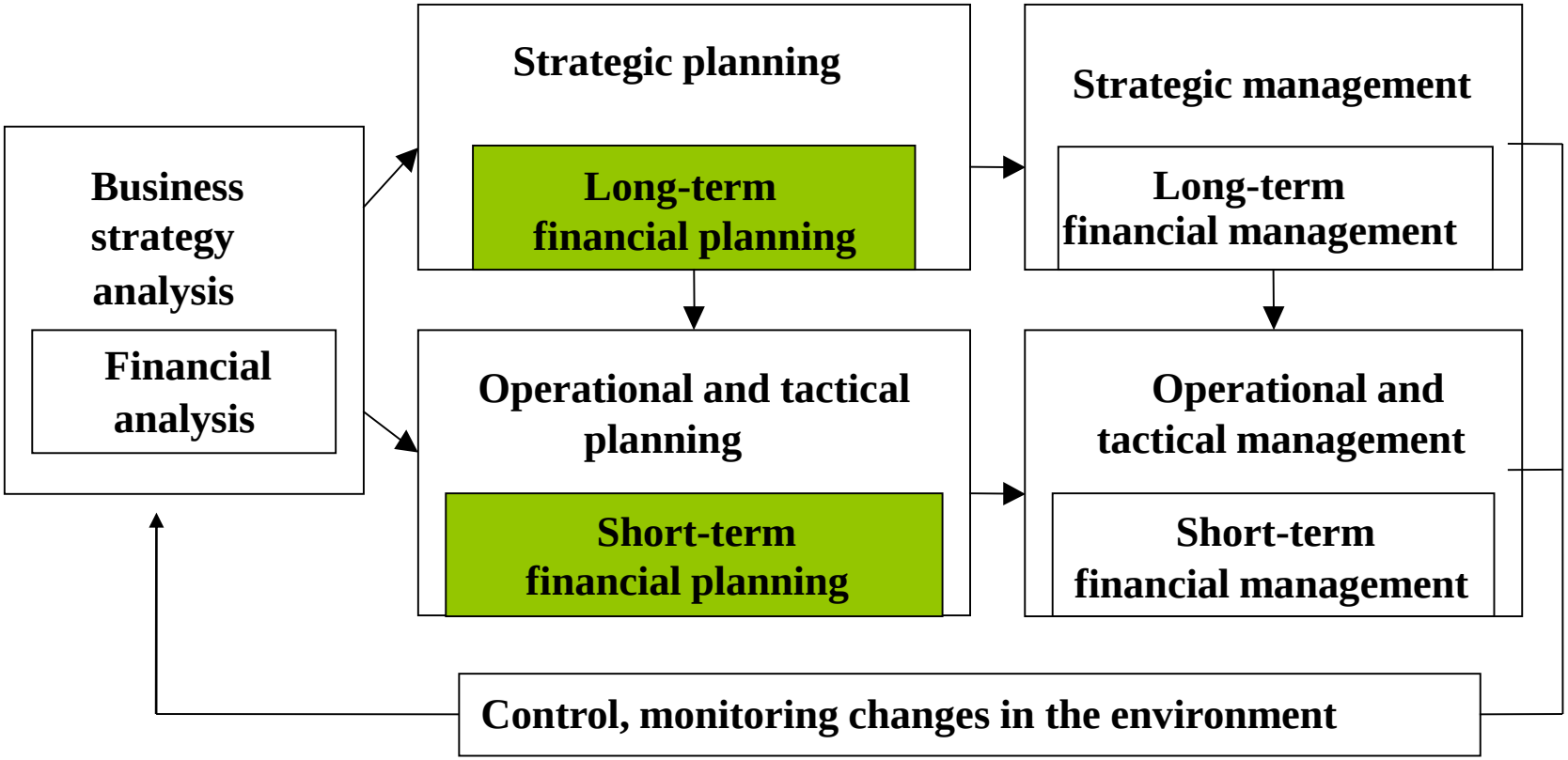
1. Terms(1)

- **Financial planning/forecasting** – process for defining future performance of a company.
- **Financial plan/forecast** – outcome of financial planning.
- **Prospective analysis** – financial planning/forecasting with the aim of valuation.
- **Types of financial plans/forecasts (1):**
  - By covered time period
    - Long-term – long term financial or business plans, usually 3 to 5 years.
      Key issues: dividend policy, capital structure (long-term loans), long-term investments.
    - Short-term – budgets covering 12 months or less.
      Key issues: working capital, distribution of resources within the company.

1. Terms(2)

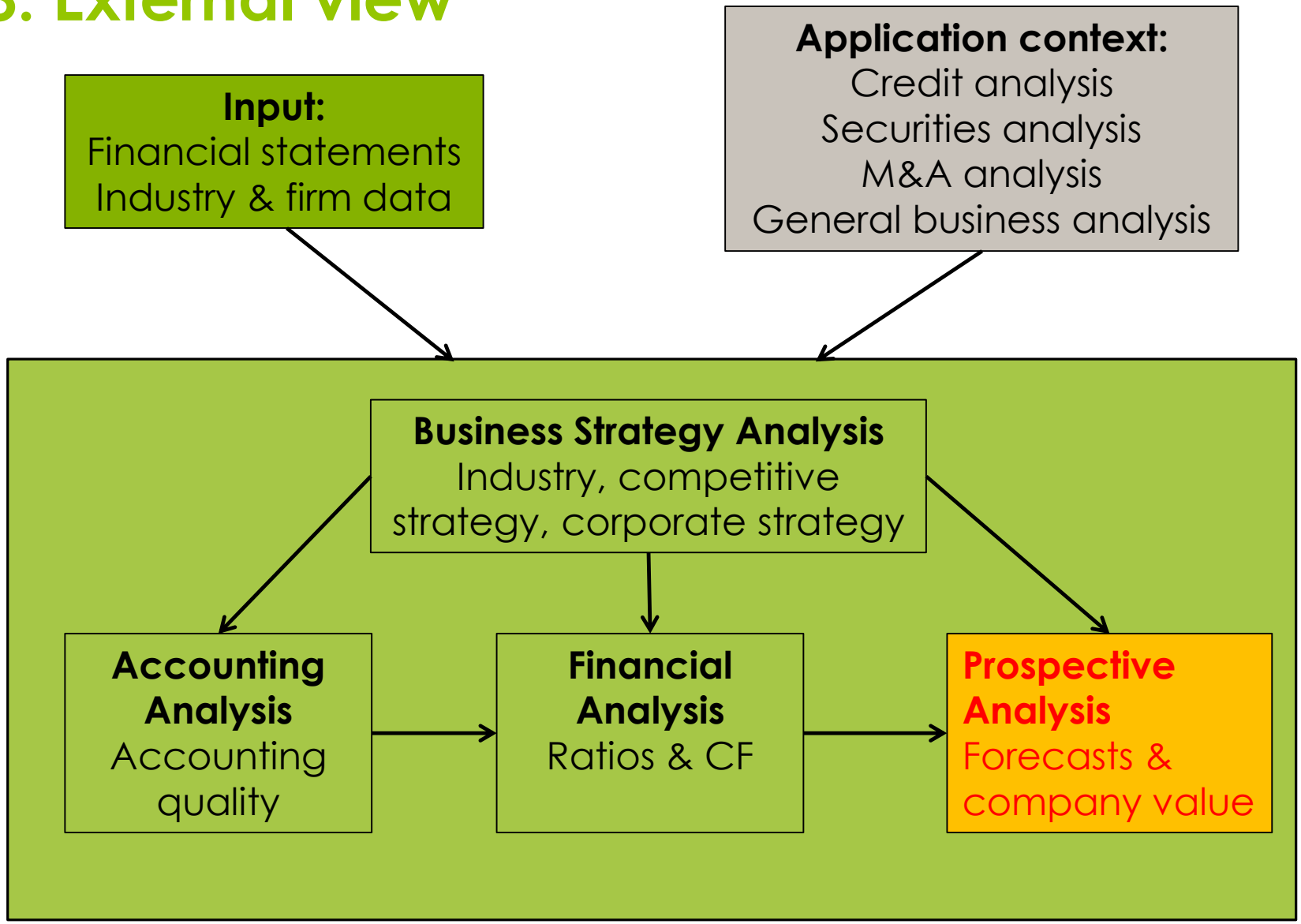
- **Types of financial plans/forecasts (2):**
  - By estimation method
    - Backward-looking – extrapolating past into the future.
    - Forward-looking – starting from scratch.
  - By focus
    - Internal – compiled by company employees.
    - External – compiled by outside personnel (bankers, acquirer's, shareholders etc.)

2. Internal view



Financial planning and company strategy

3. External view



4. Elements of a financial plan

- **Assumptions**
  - Based on key business drivers which can be measured or for which data is available (in the Tallinna Vesi case, mostly provided to you).
  - When using spreadsheets, try to put data in separate cells in the worksheet (NB! do not type the numbers into formulas) preferably using some distinct formatting.
  - Try to be as objective and impartial as possible.
- **Model**
  - Determine the associations between financial statement elements and assumptions.
  - Use as much linking as possible – this facilitates sensitivity tests and scenario analyses at later stages.
- **Outcome**
  - Forecasted financial statements, e.g. balance sheet.

5. Forecasting process (1)

1. **Sales forecast**
   - Go as deep as you can considering the data at hand - volumes and prices, vacancy, segments, products, services etc.
   - Consider demand and external factors influencing it.
   - Consider the resource constraints of the company.
2. **Cost of goods sold forecast**
   - Determine key components and link these to sales volume either through % of sales or direct estimation.
   - Try to capture the diversity underlying the cost of goods structure similarly to sales.
3. **Capital expenditure and R&D forecast**
   - How much investments into fixed assets, R&D and working capital are needed to meet the sales forecasts?

5. Forecasting process (2)

4. **Sales and administration expenses.**
   - Consider how strong is the impact arising from changes in sales and investments.
5. **Estimate cash flows, and determine additional financing need**
   - How much additional capital is needed to cover the investments into fixed assets, R&D and working capital?
6. **Finalise forecated income statement.**
7. **Prepare forecasted balance sheet.**
   - Use financial ratios, % of sales or direct estimation depending on the balance sheet item.

6. Problem areas

1. **Difficulties in quantifying the financial impact of some potential negative/positive factors.**
   - Solution - If possible try to measure qualitatively.
2. **The longer the forecast period, the higher the uncertainty.**
   - Solution – Focus on a reasonable timeframe considering the specifics of the company and the objective of the forecast.
3. **Frequency – annual, quarterly, monthly?**
   - Consider the objectives and bear in mind possible seasonality.
4. **Forecasts remain subjective.**
   - Solution – Use sensitivity analysis or scenarios (pessimistic/normal/optimistic) to tackle the uncertainty.

Company Valuation

- Traditional DCF approaches to company value:
  - **DDM** – dividend discount model
  - **FCFF** – free cash flow to firm – cash flow available to company's capital providers after all operating expenses, investments in working capital and fixed capital have been covered.
  - **FCFE** – free cash flow to equity – cash flow available to company's **equity owners** after all operating expenses, **interest, and principal payments**, investment in working and fixed capital have been covered.

	FCFF	FCFE
Better if	A levered company with negatiive FCFE	Stable capital structure - simpler
	A levered company with changing capital structure	

FCFF (1)

- FCFF – free cash flow to firm =

  Net income
  + Non-cash items (incl. depreciation, write-downs of assets)
  + Interest expense *(1- tax rate)
  - Investment in working capital
  - Investment in fixed capital

$$\text{Firm value} = \sum_{t=1}^{\infty} \frac{\text{FCFF}_t}{(1+\text{WACC})^t}$$

WACC – weighted average cost of capital

Equity value = Firm value – Market value of debt

Price per share = equity value/ number of shares

FCFF (2)

- FCFF – free cash flow to firm =

  Cash flow from operations (CFO)

  \+ Interest expense *(1- tax rate) (if the company uses US GAAP or in case of IFRS interest expense is under CFO, otherwise omit this item)

  \- Investment in fixed capital

$$\text{Firm value} = \sum_{t=1}^{\infty} \frac{\text{FCFF}_t}{(1+\text{WACC})^t}$$

WACC – weighted average cost of capital

Equity value = Firm value – Market value of debt

Price per share = equity value/ number of shares

FCFE (1)

- FCFE – free cash flow to equity =

  Net income
  + Non-cash items
  - Investment in working capital
  - Investment in fixed capital
  + Net borrowing

$$\text{Equity value} = \sum_{t=1}^{n} \frac{\text{FCFE}_t}{(1+r)^t} + \frac{\text{FCFE}_{n+1}}{(r-g)} \frac{1}{(1+r)^n}$$

r – cost of equity

Price per share = equity value/ number of shares

FCFE (2)

- FCFE – free cash flow to equity =

  Cash flow from operations (CFO)

  \- Investment in fixed capital

  \+ Net borrowing

$$\text{Equity value} = \sum_{t=1}^{n} \frac{\text{FCFE}_t}{(1+r)^t} + \frac{\text{FCFE}_{n+1}}{(r-g)} \frac{1}{(1+r)^n}$$

r – cost of equity

Price per share = equity value/ number of shares

FCFE (3)

- FCFE – free cash flow to equity =
  - FCFF
  - \- Interest expense *(1- tax rate)
  - \+ Net borrowing

$$\text{Equity value} = \sum_{t=1}^{n} \frac{\text{FCFE}_t}{(1+r)^t} + \frac{\text{FCFE}_{n+1}}{(r-g)} \frac{1}{(1+r)^n}$$

r – cost of equity

Price per share = equity value/ number of shares

- For further details, see the additional reading material in Moodle.

Case introduction (1)

- Company – Tallinna Vesi
- Owner – 35.3% UU Tallinn B.V., 34.7% City of Tallinn, 30% listed on Tallinn Stock Exchange.
- Activity - water and wastewater collection and treatment services.
- Service area - Tallinn & neighbouring municipalities (Maardu, Harku, Saue).
- Data
  - Description of business processes and results of operations.
  - Details on tariff dispute (Appendix 2).
  - Financial statements 2010-2016 (Appendix 3-5).
  - Peers' financials (Appendix 6).

Case introduction (2)

- Protagonist – Mike Poom, intern at a bank.
- Objectives:
  - Prepare a detailed financial forecast of the company.
  - Determine appropriate price range for its share considering the potential impact arising from the ongoing tariff dispute with the Competition Authority.