3.1 What is Corporate Financial Planning?

- It formulates the method by which financial goals are to be achieved.
- There are two dimensions:
  1. A Time Frame
     - Short run is probably anything less than a year.
     - Long run is anything over that; usually taken to be a two-year to five-year period.
  2. A Level of Aggregation
     - Each division and operational unit should have a plan.
     - As the capital-budgeting analyses of each of the firm’s divisions are added up, the firm aggregates these small projects as a big project.

3.2 A Financial Planning Model: The Ingredients

- Sales forecast
- Pro forma statements
- Asset requirements
- Financial requirements
- Plug
- Economic assumptions

Sales Forecast

- All financial plans require a sales forecast.
- Perfect foreknowledge is impossible since sales depend on the uncertain future state of the economy.
- Businesses that specialize in macroeconomic and industry projects can be help in estimating sales.
Plug

Compatibility across various growth targets will usually require adjustment in a third variable.
Suppose a financial planner assumes that sales, costs, and net income will rise at \( g_1 \). Further, suppose that the planner desires assets and liabilities to grow at a different rate, \( g_2 \). These two rates may be incompatible unless a third variable is adjusted. For example, compatibility may only be reached is outstanding stock grows at a third rate, \( g_3 \).

The Steps in Estimation of Pro Forma Balance Sheet: (continued)

4. Computer projected retained earnings as

\[
\frac{\text{Present retained earnings} + \text{Projected net income} - \text{Cash dividends}}{\text{Projected retained earnings}}
\]

5. Add the asset accounts to determine projected assets. Next, add the liabilities and equity accounts to determine the total financing; any difference is the shortfall. This equals the external funds needed.

6. Use the plug to fill EFN.

A Brief Example

The Rosengarten Corporation is thinking of acquiring a new machine. The machine will increase sales from $20 million to $22 million—10% growth.

The firm believes that its assets and liabilities grow directly with its level of sales. Its profit margin on sales is 10%, and its dividend-payout ratio is 50%.

Will the firm be able to finance growth in sales with retained earnings and forecast increases in debt?

The Percentage Sales Method: EFN

The external funds needed for a 10% growth in sales:

\[
\left( \frac{\text{Assets}}{\text{Sales}} \right) \times \Delta \text{Sales} - \left( \frac{\text{Debt}}{\text{Sales}} \right) \times \Delta \text{Sales} - (p \times \text{Projected Sales}) \times (1 - d)
\]

\[
\frac{\text{Assets}}{\text{Sales}} \times \Delta \text{Sales} = \frac{\$30}{\$20} \times 1.5 = 2.25 \quad \frac{\text{Debt}}{\text{Sales}} \times \Delta \text{Sales} = \frac{\$16}{\$20} \times 0.8
\]

\( p = \) Net profit margin = 0.10

\( d = \) Dividend payout ratio = 0.5

\( \Delta \text{Sales} = \) Projected change in sales = $2 million

A Brief Example

<table>
<thead>
<tr>
<th>Current Balance Sheet (millions)</th>
<th>Pro forma Balance Sheet (millions)</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current assets $6</td>
<td>$6.6</td>
<td>30% of sales</td>
</tr>
<tr>
<td>Fixed assets $24</td>
<td>$26.4</td>
<td>120% of sales</td>
</tr>
<tr>
<td>Total assets $30</td>
<td>$33</td>
<td>150% of sales</td>
</tr>
<tr>
<td>Short-term debt $10</td>
<td>$11</td>
<td>50% of sales</td>
</tr>
<tr>
<td>Long-term debt $6</td>
<td>$6.6</td>
<td>30% of sales</td>
</tr>
<tr>
<td>Common stock $4</td>
<td>$4</td>
<td>Constant</td>
</tr>
<tr>
<td>Retained earnings $10</td>
<td>$11.1</td>
<td>Net Income</td>
</tr>
<tr>
<td>Total financing $30</td>
<td>$32.7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$300,000</td>
<td>Funds needed</td>
</tr>
</tbody>
</table>
The Percentage Sales Method: EFN

The external funds needed

\[
\left(\frac{\text{Assets}}{\text{Sales}}\right) \times \Delta \text{Sales} - \left(\frac{\text{Debt}}{\text{Sales}}\right) \times \Delta \text{Sales} - \left(p \times \text{Projected Sales}\right) \times (1 - d)
\]

\[
= (1.5 \times \$2m) - (0.30 \times \$2m) - (0.10 \times \$22m \times 0.5)
\]

\[
= 1.4m - 0.6m - 1.1m
\]

\[
= 0.8m - 0.5m
\]

\[
= 0.3m
\]

$100,000

3.4 What Determines Growth?

- Firms frequently make growth forecasts on explicit part of financial planning.
- On the other hand, the focus of this course has been on shareholder wealth maximization, often expressed through the NPV criterion.
- One way to reconcile the two is to think of growth as an intermediate goal that leads to higher value.
- Alternatively, if the firm is willing to accept negative NPV projects just to grow in size, the shareholders (but not necessarily the managers) will be worse off.

3.3 What Determines Growth?

- There is a linkage between the ability of a firm to grow and its financial policy \textit{when the firm does not issue equity}.
- The Sustainable Growth Rate in Sales is given by:

\[
\Delta S = \frac{p \times (1 - d) \times (1 + \frac{D}{E})}{T \times (p \times (1 - d) \times (1 + \frac{D}{E})}
\]