**Financial Planning and Growth**

**Learning Outcomes**

After completing this module, students will be able to:

1. Prepare a short-term financial plan that helps a company attain its operational and financial goals while maintaining adequate liquidity and adhering to its financial policies and loan conditions.
2. Prepare a long-term financial plan using the percentage of sales method that forecasts a company’s long-term asset and permanent financing requirements.
3. Manage a company’s sustainable growth rate to better support long-term growth.

**Introduction**

Companies engage in both short-term and long-term financial planning. Students studied short-term financial planning first in introductory management accounting where they learned to prepare an organization’s master budget for the upcoming year. The master budget is a comprehensive short-term financial plan that is divided into both operating and financial budgets as shown in Exhibit 1.

**Exhibit 1: Master Budget**

**Direct Materials Budget**

**Overhead Budget**

**Sales Budget**

**Production Budget**

**Direct Labour Budget**

**Finished Goods Budget**

**Cost of Goods Sold Budget**

**Budgeted Income Statement**

**Marketing Expenses Budget**

**Administrative Expenses Budget**

**R&D Budget**

**Cash Budget**

**Budgeted Balance Sheet**

**Long-term Sales Forecast**

**Capital Budget**

**Operating Budgets**

**Financial Budgets**

Operating budgets deal with the income-generating activities of a business culminating in the preparation of the budgeted income statement. Financial budgets consist of the capital budget, cash budget, and budgeted balance sheet. The capital budget itemizes the asset purchases that will be made next year. The cash budget focuses on the cash inflows and outflows of a business including the capital purchases and the needed permanent financing. Finally, the budgeted balance summarizes a firm’s financial position at year-end.

Operating budgets focus on product costing and variance analysis and are primarily of interest to accountants. For finance professionals, the financial budgets are more important as they help determine whether a company can achieve its financial goals while remaining liquid, adhering to its financial policies, and complying with its lending conditions.

Companies also develop long-term financial plans for periods greater than a year based on the long-term sales forecast. These plans are less accurate and detailed than short-term financial plans because of their longer timeframe but still provide important information relating to a company’s future growth, the assets that will be required to support this growth, and the necessary financing.

This module covers both short-term and long-term financial planning including managing a company’s sustainable growth rate. Capital Budgeting is covered in another module.

**1.1 | Rationale for Financial Planning**

Before implementing short-term and long-term financing planning systems, managers must understand why financial planning is so important. It helps a company:

**Plan for growth and change.** Growth is a high priority for most companies, but it must be done wisely. Growth should be profitable (i.e. undertake positive net present value projects only) and done at a speed that does not cause problems like cash deficiencies, excessive borrowing, or employee shortages. In a global economy, rapid changes in technology and consumer tastes are the norms, so companies must adapt quickly or perish.

**Deal with complexity and uncertainty.** Most companies need to simplify their complex operations so they can manage them effectively. Changes in financial performance under different business and economic scenarios are explored so companies can better prepare for different contingencies. The viability of potential new business ventures must be determined.

**Determine reasonable financial goals.** Some financial goals such as high profitability may not be feasible due to the nature of a business or industry competition. Other goals such as maintaining high growth while keeping debt low and dividends high cannot be achieved concurrently. Companies have to prioritize conflicting goals.

**Implement financial policies.** Companies adopt suitable dividend, maturity matching, and financial leverage policies to attract investors and manage risk. These policies greatly influence a company’s cash flows and its sources of temporary and permanent financing.

**Remain focused and in control.** Once a company establishes financial goals and policies, its employees must become fixated on achieving them and deal quickly with any variances from planned performance. As economic conditions, competitive pressures, or consumer buying habits change, budgets are updated. If financial goals are reasonable and employees have participated in setting them, they will provide valuable direction to a company’s workforce.

**Plan and monitor cash flows.** The long-term goal of any company is to maximize its share price, but its goal in the short-term is just to survive. This means generating sufficient cash to pay its liabilities so to avoid bankruptcy.

**Plan investments and financing.** With growth comes a need for additional net working capital and long-term assets. It also requires other inputs like skilled labour or raw materials that may be in short supply. Growth is only possible if a company can raise the equity and debt capital needed to finance these new assets.

**Meet loan covenants.** Commercial loans have positive, negative, and financial conditions that must be followed, or the loans can be called. Maintaining a prescribed current ratio or ensuring that there is enough collateral does not just happen, it must be planned for.

**Communicate with lenders and investors.** Lenders monitor commercial loans very carefully. They review past financial statements, but they require pro forma financial statements too. Borrowers must prove to lenders that their loans have a high probability of being repaid on time and that the lending conditions will be met on an on-going basis. Pro forma financial statements are also provided to potential investors in business start-ups such as angels or venture capitalists so they can better understand the potential risks and rewards. Equity analysts who follow larger public companies rely on pro forma information to make their financial projections and decide whether to issue a buy, sell or hold recommendation to their clients.

**1.2 | Short-term Financial Planning**

**What is Short-term Financial Planning?**

Short-term financing planning involves estimating an organization’s budgeted or pro forma financial statements for the coming year. Pro formas are normally prepared on a monthly or quarterly basis to provide managers with timely data so they can quickly identify variances between budgeted and actual amounts and take corrective actions. Budgets can also be prepared on a “rolling” or continuous basis where when one period is completed another period is added so a 12-month budget is always available.

Pro forma financial statements consist of the budgeted income statement, cash budget, and budgeted balance sheet. The cash budget has a different format than the cash flow statements students learned to prepare in introductory financial accounting. It is not divided into operations, investing, and financing sections but instead into beginning cash, cash receipts, cash disbursements including capital expenditures, financing, and ending cash. This different format provides better information for financial planners, but both approaches are the same in that they explain why cash increased or decreased over the accounting period.

An electronic spreadsheet is used to prepare a short-term financial plan due to its complexity. Most values in the budgeted income statement, cash budget, and budgeted balance sheet are calculated automatically using variables found on an input page. By putting all the budget variables in a central location, financial planners can change them once instead of in several locations throughout the worksheet.

Centralizing variables also allows financial planners to do “what if” analysis for the coming year using scenario analysis, sensitivity analysis, or simulation. With scenario analysis, planners define most-likely, best-case, and worst-case scenarios by varying several key budgeting variables at once such as sales price, sales quantity and mix, and inputs costs including labour rates, material prices, and interest rates. If budgeting outcomes are particularly sensitive to changes in only one variable, then sensitivity analysis can be used where the one variable is changed while all other variables remain constant. Simulation can also be used where all budget inputs are varied at once over a defined range and frequency resulting in a probability distribution of the expected outcomes. By determining the effect these extreme outcomes have on operational and financial performance, companies can make sure they are well prepared to meet all challenges.

In addition to an input page and separate pages for the budgeted income statement, cash budget, and budget balance sheet, there is also a page for key financial ratios. These ratios are calculated once a draft budget is prepared to help determine whether the company:

* can achieve its financial goals.
* will have enough cash to pay its obligations.
* can obtain financing for the projected growth in its working capital and long-term assets.
* adheres to its financial policies relating to dividend payment, maturity matching, and financial leverage.
* complies with its lending conditions.

If a draft budget does not meet these requirements, then changes to growth projections and other key variables are made until a suitable plan is developed. These changes can all be conveniently made on the input page.

Financial planning spreadsheets take considerable time to develop initially, but once they are perfected, they can be used in subsequent planning periods with minor modifications. For small businesses, Microsoft Excel is normally used, but larger organizations may purchase specialized accounting software that can be customized to suit their needs.

**How You Will Learn Short-term Financial Planning?**

Short-term financial planning is a complex process that is best learned by working through a comprehensive example with an explanation of every step. The first learning problem for this module is such an example. A series of video discussions describe each step including what actions might be taken if the draft plan does not meet the organization’s financial requirements. A detailed answer key is also provided along with an Excel spreadsheet that shows how to automate the entire process. Students are encouraged to work through the video discussions first. After that, they should review the answer key and study the spreadsheet carefully to learn how to automate the process. Additional learning problems are supplied so students can learn to prepare a short-term financing plan on their own.

**1.3 | Long-term Financial Planning**

**What is Long-term Financing Planning?**

Companies also develop long-term financial plans for periods greater than a year, usually two to five years. These plans are normally prepared yearly and are less detailed and accurate than short-term financial plans due to the greater uncertainty relating to key variables such as selling prices, sales quantity and mix, input costs, and interest rates. Despite this, these budgets provide important information relating to a company’s long-term sales forecast, the fixed assets that will be needed to support future growth, and whether there will be enough cash to fund this growth given the company’s current capital structure. If cash is insufficient, the company will have to make some hard decisions. Using a greater proportion of debt to finance the company may be dangerous if borrowing is already at its optimal level and issuing new equity is expensive and can lead to control problems for existing owners. If raising additional external funding is not possible, a company may have no choice but to slow its rate of growth. This is why maximizing a company’s sustainable growth rate, the rate it can grow at without increasing its borrowing level or issuing new common equity is so important. Sustainable growth is studied in the next topic.

**How does the Percentage of Sales Method Work?**

The percentage of sales method is commonly used to prepare long-term financial plans. This method assumes that as a company’s sales grow, operating expenses, working capital items (i.e. current assets and liabilities), and long-term assets (i.e. land, plant, and equipment) will remain at approximately the same percentage of sales. For the remaining long-term liability and equity accounts, their total value will be equal to assets minus current liabilities. The proportion of this amount that is either long-term debt or equity depends on the company’s target capital structure.

For operating expenses this assumption is reasonable. With working capital and long-term assets, it assumes that a company has a constant capital intensity ratio. The capital intensity ratio equals total assets divided by sales and measures the amount of assets required to generate CAD 1 in sales. If this ratio remains constant, then the growth rate of assets and sales are the same. This ratio remains constant as long as the capital or labour intensity of the company’s production methods do not change.

Using the percentage of sales method, a long-term financial plan can be quickly prepared based on a sales forecast. There is some imprecision with particular balance sheet values due to economies of scale and excess production capacity. Long-term financial planning is an inexact process though, so this level of uncertainty is generally acceptable. Each planner must determine the precision required and the amount of time they want to devote to the process.

An important output of the long-term financial plan is the amount of long-term debt and equity financing required to support planned growth. A major concern of companies is whether they will be able to raise this capital in the future. Securing the additional debt is usually not a problem if the assets purchased are acceptable as collateral, the company is not exceeding its optimal capital structure, and economic conditions are good. Securing equity can be a problem. If the company is growing at a modest rate, retained earnings will be sufficient to fund growth while still paying a growing dividend to shareholders. If growth is more rapid, retained earnings may be insufficient. As discussed, reducing the dividend is not recommended, and issuing new shares may not be an option due to high issuance costs or control issues. Hard decisions about cutting dividends, issuing new shares, or slowing growth will have to be made.

**Modifying Balance Sheet Ratios**

As discussed, there is some imprecision with the percentage of sales method due to economies of scale and excess production capacity. Financial planners can be more accurate by adjusting particular balance sheet amounts, usually inventory and fixed assets, to incorporate these effects.

**Economies of scale.** Some assets remain at the same percentage of sales as a company grows (Exhibit 2) while for others the rate falls (Exhibit 3). This is common with inventory where a base stock is initially required to fill a company’s factories, distribution centres, and retail facilities but then proportionately less stock is needed to support subsequent sales increases. The line may even be curvilinear meaning minimal additional inventory will be required at higher-volume levels.

**Exhibit 3: Base Stock**

**Exhibit 2: No Base Stock**

**100**

**200**

**Inventory CAD**

**60**

**120**

**Sales CAD**

**60 ÷ 100 = .60**

**120 ÷ 200 = .60**

**100**

**200**

**Inventory CAD**

**100**

**140**

**Sales CAD**

**100 ÷ 100 = 1.00**

**140 ÷ 200 = .70**

**Idle production capacity.** Companies may have idle production capacity due to a recent recession or because capacity can only be added in large increments due to the “lumpy” nature of many assets. As a result, fixed assets may not grow despite an increase in sales until a company’s capacity is fully utilized and then grow substantially when new capacity is added.

**Exhibit 4: Excess Capacity**

**Excess Capacity**

**Fixed Assets CAD**

**Sales CAD**

**Business Forecasting**

Critical to any financial plan is an accurate sales forecast. Businesses employ both qualitative and quantitative techniques to estimate customer demand using past data and future estimates. Qualitative methods based on the subjective opinions and judgments of customers and experts are the most effective in the short-term. Simple approaches such as executive opinions, salesforce polling, customer surveysm or focus groups are used. More complex methods include formal market research using primary and secondary data; the Delphi method using multiple panels of experts; or a historical life-cycle analogy that bases forecasts on the historical demand for similar products. Quantitative methods include different statistical processes such as time series including trend projections, moving averages, exponential smoothing, and seasonal indexes; simple and multi-regression models; leading and lagging indicators; and econometric modeling. Module: Business Forecasting demonstrates how to apply these different methods.

**1.4 | Sustainable Growth**

**What is the Sustainable Growth Rate?**

The sustainable growth rate (SGR) is the growth rate of sales that a company can support assuming it does not issue new common equity and only uses its retained earnings to fund growth while maintaining constant financial fundamentals including its retention ratio (R), rate of return on equity (ROE), and capital structure (debt/equity). The SGR formula is:

$$SGR= \frac{\left(ROE\right)(R)}{1-\left(ROE\right)(R)}$$

R is the portion of net income that is not paid out to shareholders and remains in a business to fund its growth. ROE measures profitability by relating net income to shareholders’ equity. According to the 3-way analysis of ROE, three factors (net profit margin, total asset turnover, and debt ratio) cause this ratio to change:

**Total asset turnover**

**Net profit margin**

$ROE= \frac{Net income}{Shareholders^{'}equity}$ = $\frac{Net income}{Sales}$ x $\frac{Sales}{Total assets}$ x $\frac{Total assets}{Total equity}$

**Debt ratio**

$ROE$ = $\frac{\frac{Net income}{Sales} x \frac{Sales}{Total assets}}{1- \frac{Total debt}{Total assets}}$

In practice, companies do avoid issuing new common equity, try to maximize their ROE, and have established financial policies that result in stable retention and debt ratios. As a result, the SGR is commonly used to measure growth, although it should be used with caution if any of the financial fundamentals are changing.

**Sustainable Growth Rate Formula**

The SGR formula is based on the following general formula and assumptions:

**General Formula**

External common equity financing needed **=** Increase in total assets **–** Addition to retained earning **–** New borrowing

**Assumptions**

* No new external common equity financing is used.
* The capital intensity ratio remains constant resulting in the same growth rate for both sales and total assets.
* Financial fundamentals remain constant.

**Sustainable Growth Rate Formula with Variables**

The general formula can be restated as:

0 = (Assets) (Growth rate in sales) - (Net profit margin) (Sales) (Retention Ratio) (1 + Growth rate in sales) - (Net profit margin) (Sales) (Retention ratio) (1 + Growth rate in sales) (Debt/Equity)

**Component 1:** External common equity financing needed in the coming year equals zero if the company does not issue new external common equity.

**Component 2:** Increase in total assets is the new assets a company needs in the coming year to support growth. It equals total assets times the growth rate in sales as the capital intensity ratio remains constant.

**Component 3:** Addition to retained earnings is the portion of net income in the coming year that will be retained by the company. It equals profits times the retention ratio times the growth rate in sales.

**Component 4:** New borrowing is the amount of debt a company can raise in the coming year given the addition to retained earnings and the requirement that it keep its debt-to-equity ratio at a constant level. It equals Component 3 times the debt-to-equity ratio.

**Manipulation of the Restated General Formula**

**Step 1: Simplify the formula**

0 = (A)(g) - (P)(S)(R)(1 + g) - (P)(S)(R)(1 + g) (D/E)

0 = (A)(g) - (P)(S)(R)(1 + g) (1 + D/E)

A – Total assets

g – Growth rate in sales

P – Net profit margin

S – Sales

R – Retention ratio

D – Debt

E – Equity

**Step 2: Divide both sides by A and substitute in ROA**

0 = (A)(g) - (P)(S)(R)(1 + g) (1 + D/E)

0 = (g) – (ROA)(R)(1 + g) (1 + D/E)

Note: P times S equals net income. Net income divided by A is the rate of return on assets (ROA).

**Step 3: Substitute ROE for ROA (1 + D/E)**

0 = (g) – (ROA)(R)(1 + g) (1 + D/E)

0 = (g) – (ROE)(R)(1 + g)

Note: The 3-way analysis of ROE states:

$ROE $= $\frac{Net income}{Sales}$ x $\frac{Sales}{Total assets}$ x $\frac{Total assets}{Total equity}$

If the first two components are simplified, the formula is:

$ROE$ = $\frac{Net income}{Total assets}$ x $\frac{Total assets}{Total equity}$

The first component is equal to the ROA:

$ROE$ = ROA x $\frac{Total assets}{Total equity}$

The second component can be restated as:

$ROE$ = ROA x ($\frac{E +D }{E}$)

$ROE$ = ROA x (1 + $\frac{D }{E}$)

**Step 4: Expand the formula**

0 = (g) – (ROE)(R)(1 + g)

0 = (g) – (ROE)(R) – (ROE)(R)(g)

**Step 5: Isolate for g**

0 = (g) – (ROE)(R) – (ROE)(R)(g)

(ROE) (R) = (g) – (ROE)(R)(g)

(ROE) (R) = (g) (1 – (ROE)(R))

g = $\frac{(ROE) (R) }{(1 – (ROE)(R))}$

Note: g is the SGR.

**Increasing the SGR**

What if a company has the potential to grow at a faster rate than its SGR due to improving business prospects? The simple solution would be to issue new common equity, but this has problems. Most companies try to grow using retained earnings as their only source of new common equity financing because:

* Issuing new common equity may cause existing shareholders to lose control.
* Issuance costs for new common equity are high especially for start-ups and small businesses.
* Start-ups and small businesses may have exhausted all new common equity sources.
* EPS will be diluted in the short-term as it takes time for the new common equity to be used effectively in the company.
* Managers are concerned about issuing new common shares when they are undervalued in the stock markets as it will hurt existing shareholders.

If selling new common equity is not an option, then another way to raise a company’s SGR is to increase its retention ratio or ROE. As discussed, once a company declares a dividend, they are unlikely to reduce it as it would signal to the market that they are experiencing difficulties which may lead to a decline in their share price. Management is more likely to only slow the rate of dividend growth to increase the SGR. Even this action may harm the share price if investors have come to expect regular dividend increases at a specific rate. Increasing the retention ratio is generally not effective in raising the SGR unless a company has been careful in the past to use stock repurchases to distribute its earnings.

ROE can be increased by raising a company’s net profit margin and total asset turnover.

$ROE$ = $\frac{Net profit margin x Total asset turnover ratio}{1- Debt ratio}$

All companies should attempt to optimize these ratios on an ongoing basis, but some strategies can help limit the capital expenditures needed to support sales growth. Companies can:

* Increase prices to raise the net profit margin which lowers unit demand and capital expenditures.
* Outsource non-essential business activities with large capital expenditures.
* Use “profitability pruning” to sell business units that have low net profit margins and large capital expenditures.

A company can increase its ROE by raising its debt ratio. This is safe if the debt ratio is below the optimal level, but excessive borrowing exposes a company to bankruptcy risk. Reducing cash reserves to dangerously low levels to raise capital for expansion should also be avoided.

After increasing the SGR as much as reasonably possible, if a company’s actual growth rate continues to exceed its SGR, it should reduce its growth to avoid overborrowing. Bankers view a large positive difference between a company’s actual and sustainable growth rates as a “red flag” that its high borrowing level is not sustainable.

**Lowering the SGR**

If a company’s SGR exceeds its actual growth rate, it is generating more funds than it needs. The first inclination of management is to put these funds to work expanding its product line or diversifying into new business areas. When doing this, companies should:

* Make sure all proposed projects have a positive net present value.
* Diversify into related areas where the company has expertise.
* Avoid business acquisitions as they will likely overpay for the target company.
* Avoid excessive cash or short-term investments that earn low returns.

When a company’s SGR exceeds its actual growth rate, it should lower its retention ratio and give the unneeded funds back to its investors who can redeploy them in more profitable business ventures. Increasing dividends is not a sign of management failure but an indication that they are working in the best interests of shareholders by reducing agency costs. Companies whose managers do not do this are frequently the target of corporate takeovers. Another firm will buy the company and distribute the surplus cash to shareholders themselves.

A valuable tool in managing corporate growth is to compare a company’s SGR to its actual growth rate over time focusing on how the different components of the SGR are changing.

**1.5 | Sustainable Growth at Canadian Companies**

Comparing a company’s sustainable and actual growth rates provides valuable insights into its past growth and future growth prospects. To calculate these rates, analysts should consult the investor relations or corporate information section of a company’s website. Here they provide important financial information for their stakeholders such as the annual report, consolidated financial statements, management discussion and analysis, annual information form, management information circular, and other disclosures. These documents can also be found on the System for Electronic Data Analysis and Retrieval (SEDAR) website sponsored by Canada’s securities regulators. In the U.S., similar reports are available on the company’s website or through the Electronic Data Gathering Analysis Retrieval (EDGAR) system hosted by the U.S. Securities Exchange Commission. CAE provides a practical example of SGR analysis.

**CAE**

CAE is a Canada-based global leader in training solutions for the civilian aviation, defence and security, and healthcare markets. Utilizing both virtual and live methods, CAE trains over 220,000 civil and military crewmembers and thousands of medical professionals at approximately 160 training sites in over 35 countries. With a worldwide shortage of pilots, rising defence budgets, and growing healthcare spending, CAE expects continued strong growth in the future. In 2019, the company had nearly CAD 3.304 billion in revenues and profits of CAD 340.1 million.

**Exhibit 5: Sustainable Growth Rate**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **2015** | **2016** | **2017** | **2018** | **2019** | **5-Year Average** |
| Dividends (CAD millions) | 46.3 | 56.7 | 80.6 | 89.9 | 99.9 | 74.7 |
| Stock repurchases (CAD millions) | 0.0 | 7.7 | 41.7 | 44.8 | 94.4 | 37.7 |
| Share issuances (CAD millions) | 12.7 | 15.9 | 12.7 | 15.7 | 18.3 | 15.1 |
| Cash and cash equivalents (CAD millions) | 330 | 485 | 505 | 612 | 446 | 476 |
| Retention ratio | 0.84 | 0.79 | 0.57 | 0.66 | 0.48 | 0.67  |
| Net profit margin (%) | 9.1% | 9.2% | 9.5% | 12.6% | 10.3% | 10.1% |
| Asset turnover ratio | 0.48 | 0.50 | 0.50 | 0.49 | 0.46 | 0.49  |
| Debt ratio (%) | 64.3% | 65.5% | 62.7% | 60.3% | 66.4% | 63.8% |
| ROE (%) | 12.3% | 13.4% | 12.8% | 15.4% | 14.1% | 13.6% |
| Sustainable growth rate (%) | 11.5% | 11.8% | 7.9% | 11.4% | 7.3% | 10.0% |
| Actual growth rate (%) | 8.1% | 11.9% | 7.6% | 4.4% | 17.0% | 9.8% |

CAE has been able to fund its high growth internally over the last five years without slowing its growth or issuing excessive amounts of new debt or common shares. The company has reduced its retention ratio substantially to move surplus funds out of the business to shareholders instead of investing them in low-yielding marketable securities. Dividend increases were modest, but the company used stock repurchases to give it the flexibility to take advantage of future growth opportunities without having to cut its dividends. The net profit margin and asset turnover ratio have been relatively stable although they did decline in the last year.