Excellence in Financial Management

Course 2: Financial Planning and Forecasting

Prepared by: Matt H. Evans, CPA, CMA, CFM

This course provides a basic understanding of how to prepare a financial plan (budgeted financial statements). This course will also discuss some of the problems associated with budgeting along with "best practices" in budgeting. This course is recommended for 2 hours of Continuing Professional Education. In order to receive credit, you will need to pass a multiple choice exam which is administered over the internet at www.exinfm.com/training

Revised March 2000

Chapter 1

The First Steps

Introduction

Financial planning is a continuous process of directing and allocating financial resources to meet strategic goals and objectives. The output from financial planning takes the form of budgets. The most widely used form of budgets is Pro Forma or Budgeted Financial Statements. The foundation for Budgeted Financial Statements is Detail Budgets. Detail Budgets include sales forecasts, production forecasts, and other estimates in support of the Financial Plan. Collectively, all of these budgets are referred to as the Master Budget.

We can also break financial planning down into planning for operations and planning for financing. Operating people focus on sales and production while financial planners are interested in how to finance the operations. Therefore, we can have an Operating Plan and a Financial Plan. However, to keep things simple and to make sure we integrate the process fully, we will consider financial planning as one single process that encompasses both operations and financing.

Start with Strategic Planning

Financial Planning starts at the top of the organization with strategic planning. Since strategic decisions have financial implications, you must start your budgeting process within the strategic planning process. Failure to link and connect budgeting with strategic planning can result in budgets that are "dead on arrival."

Strategic planning is a formal process for establishing goals and objectives over the long run. Strategic planning involves developing a mission statement that captures why the organization exists and plans for how the organization will thrive in the future. Strategic objectives and corresponding goals are developed based on a very thorough assessment of the organization and the external environment. Finally, strategic plans are implemented by developing an Operating or Action Plan. Within this Operating Plan, we will include a complete set of financial plans or budgets.

Financial Plans (Budgets) $\Rightarrow$ Operating Plan $\Rightarrow$ Strategic Plan

NOTE: Short Course 10 describes how to prepare a Strategic Plan.

The Sales Forecast

In order to develop budgets, we will start with a forecast of what drives much of our financial activity; namely sales. Therefore, the first forecast we will prepare is the Sales Forecast. In order to estimate sales, we will look at past sales histories and various factors that influence sales. For example, marketing research may reveal that future sales are expected to stabilize. Maybe we cannot meet growing sales because of limited production capacities or maybe there will be a general economic slow down resulting in falling sales. Therefore, we need to look at several factors in arriving at our sales forecast.

After we have collected and analyzed all of the relevant information, we can estimate sales volumes for the planning period. It is very important that we arrive at a good estimate since this estimate will be used for several other estimates in our budgets. The Sales Forecast has to take into account what we expect to sell at what sales price.

EXHIBIT 1 — SALES FORECAST

Product	Volume	Price	Total Sales
Lace Shoes	16,000	$ 45.00	$ 720,000

Percent of Sales

We now need to estimate account changes because of estimated sales. One way to estimate and forecast certain account balances is with the Percent of Sales Method. By looking at past account balances and past changes in sales, we can establish a percentage relationship. For example, all variable costs and most current assets and current liabilities will vary as sales change.

EXAMPLE 1 — ESTIMATED ACCOUNTS RECEIVABLE

Past history shows that accounts receivable runs around 30% of sales. We have estimated that next year's sales will be $ 160,000. Therefore, our estimated accounts receivable is $ 48,000 ($ 160,000 x .30).

Chapter
2

Detail Budgets

We also need to prepare several detail budgets for developing a Budgeted Income Statement. For example, production must be planned for our estimated sales of 16,000 units from Exhibit 1. The Production Department will need to budget for materials, labor, and overhead based on what we expect to sell and what we expect in inventory.

EXHIBIT 2 — PRODUCTION BUDGET

Planned Sales (Exhibit 1)	16,000
Desired Ending Inventory	1,500
Total Units	17,500
Less Beginning Inventory	(3,000)
Planned Production	14,500

Once we have established our level of production (Exhibit 2), we can prepare a Materials Budget. The Materials Budget attempts to forecast the level of purchases required, taking into account materials required for production and inventory levels. We can summarize materials to be purchased as:

Materials Purchased = Materials Required + Ending Inventory - Beginning Inventory

EXHIBIT 3 — MATERIALS BUDGET

Lace Shoes require .25 square yards of leather and leather is estimated to costs $ 5.00 per yard next year. Materials Required = 14,500 (Exhibit 2) x .25 = 3,625 yards.

Materials Required for Production	3,625
Desired Ending Inventory	375
Total Materials	4,000
Less Beginning Inventory	(500)
Total Materials Required	3,500
Unit Cost for Materials	x $ 5.00
Total Materials Purchased	$ 17,500

The second component of production is labor. We need to forecast our labor needs based on expected production. The Labor Budget arrives at expected labor cost by applying an expected labor rate to required labor hours.

EXHIBIT 4 — LABOR BUDGET

Lace Shoes require .50 hours to produce one unit.
14,500 units x .50 = 7,250 hours.
The expected hourly labor rate next year is $ 12.00.

Estimated Production Hours	7,250
Hourly Labor Rate	x 12.00
Total Labor Costs	$ 87,000

As production moves up or down, support services and other costs related to production will also change. These overhead costs represent the third major costs of production. Each item that comprises overhead may warrant independent analysis so that we can determine what drives the specific cost. For example, production rental equipment may be driven by production orders while depreciation is driven by levels of capital investment spending.

EXHIBIT 5 — OVERHEAD BUDGET (Based on Unique Drivers)

Estimated for each line item as follows:

Indirect Labor Costs *	$ 12,000
Utilities	5,000
Depreciation	3,000
Maintenance	1,000
Insurance and Taxes	4,000
Total Overhead Costs	$ 25,000

*Production Supervision and Inspection

Once production costs (direct materials, direct labor, and overhead) have been budgeted, we can work these numbers into our beginning inventory levels for Direct Materials, Work In Progress, and Finished Inventory. Beginning inventory levels are actual amounts from the last reporting period. We need to apply our costs based on what we want ending inventory to be. The end-result is a Budget for Cost of Goods Sold, which we will use for our Forecasted Income Statement.

EXHIBIT 6 — COST OF GOODS SOLD BUDGET

	Direct Materials	Work In Progress	Finished Inventory
Beginning Inventory	$ 2,500	$ 16,000	$ 46,000
Purchases (Exhibit 3)	17,500		
Less Ending Inventory	(1,875)		
Materials Required	18,125		
Direct Labor (Exhibit 4)	87,000		
Overhead (Exhibit 5)	25,000		
Total Manufacturing Costs	$ 130,125	130,125	
Total Work In Progress		146,125	
Less Ending Inventory		(12,000)	
Cost of Goods Manufactured		$ 134,125	134,125
Cost of Goods Available for Sale			180,125
Less Ending Inventory			(36,000)
Cost of Goods Sold			$ 144,125

We can now finish our estimate of expenses by looking at all remaining operating expenses. The first major type of operating expense is marketing. Marketing and Sales Manager's will prepare and submit a Marketing Budget to upper level management for approval.

EXHIBIT 7 — MARKETING BUDGET

Estimated for each line item per the Marketing Department:

Marketing Personnel	$ 75,000
Advertising & Promotion	42,000
Marketing Research	12,000
Travel & Personal Expenses	6,500
Total Marketing Expenses	$ 135,500

The final area of operating expenses is the administrative costs of running the overall business. These types of expenses will be estimated based on past trends and what we expect to happen in the future. For example, if the company has plans for a new computer system, then we should budget for additional technology related expenses. Several department managers will be involved in preparing the General and Administrative Expense Budget.

EXHIBIT 8 — GENERAL & ADMINISTRATIVE BUDGET

Estimated for each line item per Department Managers:

Management Personnel	$110,000
Accounting Personnel	55,000
Legal Personnel	40,000
Technology Personnel	45,000
Rent & Utilities	25,000
Supplies	15,000
Miscellaneous	7,500
Total G & A Expenses	$ 297,500

Chapter 3

Budgeted Financial Statements

Based on the detail budgets we have prepared (Exhibits 1 thru 8), we can finalize our budgets in the form of a Budgeted Income Statement. A few new line items are added to account for non-operating items, such as income received on investments and financing costs. The Finance and Tax Departments will assist in estimating items like financing expenses and income tax expenses. The Budgeted Income Statement will pull together all revenue and expense estimates from our previously prepared detail budgets.

EXHIBIT 9 — BUDGETED INCOME STATEMENT

Revenues (Exhibit 1)	$720,000
Less Cost of Goods Sold (Exh 6)	(144,125)
Gross Profit	575,875
Less Marketing (Exhibit 7)	(135,500)
Less G & A (Exhibit 8)	(297,500)
Operating Income	142,875
Less Interest on Debt	(8,000)
Income Before Taxes	134,875
Taxes @ 37.5%	(50,578)
Net Income	$ 84,297

EXAMPLE 2 — BUDGETED INCOME STATEMENT

Halton Company has compiled the following information:
Planned sales are 50,000 units at a price of $ 110.00 per unit.
Beginning Inventory consists of 5,000 units at a cost of $ 60.00 per unit.
Planned production is 55,000 units with the following production cost:
Direct Materials are $ 18.50 per unit
Direct Labor required is 4 hours per unit @ $ 12.00 per hour
Overhead is estimated at 20% of Direct Labor Cost
Desired Ending Inventory is 6,000 units under the LIFO Method.
Marketing Expenses are budgeted at $ 350,000
General & Administrative Expenses are budgeted at $ 400,000

< - - - - - - - - - - - - - - - Budgeted Income Statement - - - - - - - - - - - - - - >

Sales (50,000 x $ 110)		$ 5,500,000
Less Cost of Goods Sold:		
Beginning Inventory (5,000 x $ 60.00)	$ 300,000	
Direct Materials (55,000 x $ 18.50)	1,017,500	
Direct Labor (55,000 x 4 hours x $ 12.00)	2,640,000	
Overhead ($ 2,640,000 x .20)	528,000	
Cost of Available Sales	4,485,500	
Less Ending Inventory (1)	(380,500)	
Cost of Goods Sold		(4,105,000)
Gross Profits		1,395,000
Less Operating Expenses:		
Marketing Expenses		(350,000)
General & Administrative		(400,000)
Net Income		$ 645,000

(1) Under LIFO, last costs in are: $ 1,017,500 + $ 2,640,000 + $ 528,000 = $ 4,185,500 / 55,000 = $ 76.10 x 5,000 = $ 380,500.

Now that we have a Budgeted Income Statement, we can prepare a Budgeted Balance Sheet. The Budgeted Balance Sheet will provide us with an estimate of how much external financing is required to support our estimated sales.

The main link between the Income Statement and the Balance Sheet is Retained Earnings. Therefore, preparation of the Budgeted Balance Sheet starts with an estimate of the ending balance for Retained Earnings. In order to estimate ending Retained Earnings, we need to project future dividends based on current dividend policies and what management expects to pay in the next planning period.

EXHIBIT 10 — ESTIMATED RETAINED EARNINGS

Beginning Balance	$ 270,000
Budgeted Net Income (Exhibit 9)	84,297
Less Estimated Dividends	(55,000)
Ending Retained Earnings	$ 299,297

Next, we need to account for the acquisition of fixed assets. As a business depletes its asset base, it must re-invest to sustain assets which are the basis for generating revenues. For example, do we need to purchase new machinery or computer equipment? Do we plan to expand our production facilities? Operating personnel and upper-level management will decide on future capital spending. Future capital expenditures are summarized on the Capital Expenditures Budget.

EXHIBIT 11 — CAPITAL EXPENDITURES BUDGET

Purchase New Office Equipment	$ 16,000
Replace Leather Cutting Machine	8,500
Total Capital Expenditures	$ 24,500

Based on the beginning balance in assets and the budget for capital assets (Exhibit 11), we can estimate an ending asset balance for the Budgeted Balance Sheet.

EXHIBIT 12 — CHANGE IN FIXED ASSETS

Beginning Balance	$ 886,000
New Acquisitions (Exhibit 11)	24,500
Less Depreciation for the Year	(33,500)
Ending Fixed Assets	$ 877,000

We will assume that liabilities and interest expense will remain the same. However, after we have determined our level of external financing, we will need to revise these amounts. Additionally, we need to analyze trends and ratios in order to ascertain accounts that do not fluctuate with sales. For example, prepaid expense is a current asset that has little to do with sales.

Since the Balance Sheet is a year-end estimate, it assumes that all other estimates have been met. In a world of rapid change, annual forecasts are rarely close. Therefore, we will simplify our preparation of the Budgeted Balance Sheet by relying on relationships. Stable relationships over the last five years are particularly helpful. The Budgeted Balance Sheet will show either a surplus (excess financing over assets) or a deficit (additional financing needed to cover assets). This difference is derived from the Accounting Equation: Assets = Liabilities + Equity.

EXHIBIT 13 — BUDGETED BALANCE SHEET

Cash	$ 36,000	5% of Sales
Accounts Receivable	86,400	12% of Sales
Inventory	50,400	7% of Sales
Prepaid Expenses	11,000	5 year trend analysis
Fixed Assets	877,000	Exhibit 12
Total Assets	$1,060,800	
Accounts Payable	79,200	11% of Sales
Current Portion of LT Debt	6,000	Principal Paid
Long Term Debt	60,000	Subject to Revision
Total Liabilities	145,200	
Common Stock	450,000	unchanged
Retained Earnings	299,297	Exhibit 10
Total Equity	749,297	
Total Liab & Equity	894,497	
External Financing Required	$ 166,303	

We also can calculate External Financing Required (EFR) based on the relationships between assets, liabilities, and sales. The following formula can be used:

EFR = (A / S x ΔSales) - (L / S x ΔSales) - (PM x FS x (1 - d))
A / S: Assets that change given a change in sales, expressed as a percentage of sales.
ΔSales: Change in sales between the last reporting period and the forecasted sales.
L / S: Liabilities that change given a change in sales, expressed as a percentage of sales.
PM: Profit Margin on Sales; i.e. net income / sales.
FS: Forecasted Sales
(1 - d): Percent of earnings retained after paying out dividends; d is the dividend payout ratio.

EXAMPLE 3 — CALCULATE EXTERNAL FINANCING NEEDED

Falcon Company has compiled the following information:

Assets of $ 900 (mostly current assets) from the last period change with sales. Liabilities of $ 300 from the last period change with sales. Sales were $ 3,000 for the last period. Forecasted sales are $ 3,900. Profit margins on sales are 6% and 40% of earnings are paid-out as dividends.

A / S = $ 900 / $ 3,000 = .30
L / S = $ 300 / $ 3,000 = .10
Change in Sales = $ 3,900 - $ 3,000 = $ 900
EFR = .30($ 900) - .10($ 900) - .06($3,900)(1-.40) = $ 270 - $ 90 - $ 140.4 = **$ 39.6**

EXAMPLE 4 — PREPARE BUDGETED BALANCE SHEET

Gilmer Company has compiled the following information:

- Sales for the last reporting period were $ 600,000
- Projected sales are $ 800,000
- Profit Ratio is 5% of sales
- Dividend Payout Ratio is 40%
- Current Balance in Retained Earnings is $ 200,000
- Cash as a % of sales is 4%
- Accounts Receivable as a % of sales 10%
- Inventory as a % of sales is 30%
- Net Fixed Assets are budgeted at $ 300,000
- Accounts Payable as a % of sales is 7%
- Accrued Liabilities as a % of sales is 15%
- Common Stock will remain at $ 220,000

Budgeted Balance Sheet

Cash ($ 800,000 x .04)	$ 32,000
Accounts Receivable ($ 800,000 x .10)	80,000
Inventory ($ 800,000 x .30)	240,000
Net Fixed Assets	300,000
Total Assets	$ 652,000
Accounts Payable ($ 800,000 x .07)	$ 56,000
Accrued Liabilities ($ 800,000 x .15)	120,000
Common Stock	220,000
Retained Earnings (1)	
Total Liabilities & Equity	620,000
Total Additional Financing Required	32,000
Total Liabilities & Equity after financing	$ 652,000

(1): Beginning Balance	$ 200,000
Increase for New Income:	
$ 800,000 x .05 (profit margin)	40,000
Less Dividends:	
.40 x $ 40,000 Net Income	(16,000)
Ending Balance	$ 224,000

After we have prepared budgeted financial statements, it is very important to carefully review these statements with management. For example, can we truly expect to raise $ 166,303 in capital as indicated in Exhibit 13? Will the budgeted financial statements meet the expectations of shareholders? Several critical questions must be asked before we finalize our budgeted financial statements.

Additionally, our budgets were prepared on an annual basis. Many unplanned events can take place during the year, making our annual budgets extremely inaccurate. Therefore, financial planning is often improved by simply forecasting on a monthly or quarterly basis as opposed to an annual basis.

The Cash Budget

A good example of short-term financial planning is the Cash Budget. The Cash Budget is an estimate of future cash inflows and outflows. Cash Budgets are often included with the Budgeted Balance Sheet. However, it should be noted that Cash Budgets are not widely used as a general forecasting tool since they are specific to one account, namely cash. Instead, Cash Budgets are often used by Cash Managers and Treasury personnel for managing cash.

We can use our previous forecasts to help us prepare a Cash Budget. For example, we can get an idea of payable disbursements for manufacturing by looking at the Materials Budget (Exhibit 3), Labor Budget (Exhibit 4), and the Overhead Budget (Exhibit 5). We can start preparing a Cash Budget by simply looking at our stable cash flow patterns, such as accounts receivable, accounts payable, payroll, etc. We also have several predictable transactions, such as insurance payments, loan payments, etc.

EXHIBIT 14 — CASH BUDGET FOR JANUARY

Beginning Cash Balance		$ 28,000
Cash Collections on Sales (60 day lag)	$ 47,000	
Sold old machine in January	3,000	
Investment Revenues	2,000	
Total Cash Inflows	52,000	
Disbursements for Manufacturing (30 day lag)	12,400	
Marketing Expenses	10,000	
General & Administrative Expenses	26,000	
Capital Expenditures	- 0 -	
Repayments on Debt	750	
Debt Interest Payments	450	
Dividend Payments	- 0 -	
Taxes Paid	- 0 -	
Total Cash Outflows	49,600	
Net Cash Inflow (Outflow)	2,400	2,400
Ending Cash Balance		30,400
Minimum Desired Cash Balance		10,000
Cash Surplus or (Deficit)		$ 20,400

Summary of the Budgeting Process

We started our budgeting process by looking at strategic planning. Strategic Planning should always be the starting point for financial planning. From the Strategic Plan, we develop a Plan of Action so we can implement the Strategic Plan. This is often called an Operating Plan. Within the Operating Plan, we will include a set of budgets for successful implementation of the Strategic Plan. The entire set of budgets can be categorized as follows:

< - Master Budget - >
< - - - - - - - - - - - Operating Plan - - - - - - - -> < - - - - - - - - - Financial Plan - - - - - - - - ->

Sales Forecast (Exhibit 1)	Budgeted Retained Earnings (Exhibit10)
Budgeted Production (Exhibit 2)	Budgeted Capital Expenditures (Exhibit 11)
Budgeted Production Costs (Exhibits 3-5)	Change in Fixed Assets (Exhibit 12)
Budgeted Cost of Goods Sold (Exhibit 6)	Budgeted Balance Sheet (Exhibit 13)
Budgeted Operating Expenses (Exhibits 7-8)	Cash Budget (Exhibit 14)
Budgeted Income Statement (Exhibit 9)	

Chapter
4

Additional Concepts in Budgeting

So far, we have emphasized simple approaches to preparing budgets, such as looking at relationships between account balances and sales. We also should have a clear understanding of past financial performance to help us predict future financial performance. Extending past trends and adjusting for what is expected is a common approach to preparing a forecast. However, we can improve forecasting by using several techniques. The first step is recognize certain fundamentals about forecasting:

1. Forecasting relies on past relationships and existing historical information. If these relationships change, forecasting becomes increasingly inaccurate.
2. Since forecasting can be inaccurate due to uncertainty, we should consider developing several forecast under different scenarios. We can assign probabilities to each scenario and arrive at our expected forecast.
3. The longer the planning period, the more inaccurate the forecast. If we need to increase reliability in forecasting, we should consider a shorter planning period. The planning period depends upon how often existing plans need to be evaluated. This will depend upon stability in sales, business risk, financial conditions, etc.
4. Forecasting of large inter-related items is more accurate than forecasting a specific itemized amount. When a large group of items are forecast together, errors within the group tend to cancel out. For example, an overall economic forecast will be more accurate than an industry specific forecast.

Quantitative and Qualitative Techniques

You should forecast for a specific reason - to help make better decisions. Forecasting is extremely difficult and you must pull from all relevant sources. We previously discussed the Percent of Sales Method and Trend Analysis as a way of forecasting. These forecasting techniques are *quantitative*. Quantitative techniques of forecasting are best used when changes are infrequent. In today's world of rapid change, quantitative techniques tend to be of little use.

We need to add more qualitative techniques into the budgeting process. Qualitative techniques include surveys, interviews with people who are "in the know", market reports, articles, and other information sources that allow us to make a better judgement. Qualitative or Judgmental Forecasting can help improve the budgeting process, especially if we are operating in a rapidly changing environment.

The Delphi Method is an example of a qualitative technique where a group of experts gets together and reaches a consensus on what will happen in the future. A questionnaire is sometimes used to facilitate the process. Two disadvantages of the Delphi Method are low reliability with the consensus and inability to reach a clear consensus.

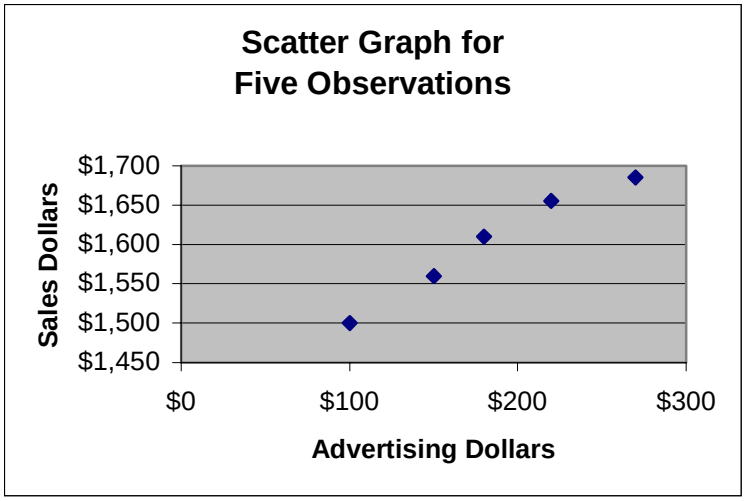
Smoothing out the Numbers

One simple approach to forecasting is to setup a model that relies on averages from past historical data. For example, we can take an average of the last five years. As we move forward to the next planning period, a new moving average is calculated and used as the forecast for the next planning period. Exponential smoothing can be used whereby we place more weight on the most recent set of actual numbers. This can be important where changes have occurred, making older data less reliable.

Regression Analysis

A statistical approach can be used for forecasting. We can rely on the average relationships between a dependent variable and an independent variable. Simple regressions look at one independent variable (such as sales pricing or advertising expenses) whereas multiple regressions consider two or more variables (such as sales pricing and advertising expenses together). Regression analysis is very popular for forecasting sales since it helps us find the right fit over a range of observations. For example, if we plot out the following observations, we can prepare a scatter graph and find the right fit:

Advertising Expense	Sales Dollars
$ 100	$ 1,500
150	1,560
180	1,610
220	1,655
270	1,685



Sensitivity Analysis

We can measure how sensitive our forecast is to changes in certain variables. We can develop a range of possibilities under different assumptions and prepare alternative plans. If Plan A fails, we can quickly move to Plan B. Sensitivity analysis also tells us which assumptions have the biggest impact on the forecast. Managers can concentrate most of their resources on the biggest impact areas for improving the forecast. The main benefit of sensitivity analysis is to measure the possibility of errors in the forecast.

Financial Models

Budgets can be prepared with the use of formal models which take advantage of techniques like regressions and sensitivity analysis. Models are built around the collection of equations, logic, and data that flows according to the relationships between operating variables and financial outputs. Financial variables (costs, sales, investments, taxes, etc.) can be manipulated by the user so that the user can see the outcome of a decision before it is made. This can help facilitate strategic thinking within the budgeting process. Two types of financial models are simulation and optimization. Simulation attempts to duplicate the effects of a decision and show its impact. Optimization seeks to optimize (maximize or minimize) a forecast objective (revenues, production costs, etc.).

Financial models provide decision support services for improvements within budgeting. Some of the benefits of financial models include:

- Shows the results of planning under a variety of assumptions, allowing the user to assess the impacts of estimates that have been used.
- Generates the Budgeted Income Statement and Budgeted Balance Sheet as well as forecasted financials by business unit or department.

In order to build a financial model, we need to establish variables, parameters, and relationships. Additionally, we can divide variables into three types:

1. Control Variables: The inputs that the company can control, such as the level of debt financing or the level of capital spending.
2. External Variables: Inputs that the company cannot control, such as economic conditions, consumer spending, interest rates, etc.
3. Policy Variables: Goals and objectives of the company can impact the expected outcomes. For example, management may set targets for sales, profitability, and costs.

Parameters are the baselines or boundaries for the financial model. For example, the level of debt may have a minimum and maximum value. We also will set our beginning account balances within the financial model.

Relationships are the logic and specifications required for making things work. For example, the Budgeted Balance Sheet will require that Assets = Liabilities + Equity. Several equations will be used within the financial model. Many of these equations will be relational; i.e. if we change sales prices, total revenues will change. Equations are tested and added to the financial model to make it complete. Equations can be expanded into business and decision rules so that users do not have to worry about calculating things like return on equity. The financial model takes care of critical rules for running the business or making decisions.

EXHIBIT 15 — FINANCIAL MODEL FOR CASH

Relationships (Equations):
Cash(t) = Cash(t-1) + Cash Receipts(t) + Cash Disbursements(t)
Cash Receipts(t) = (a) x Sales(t) + (b) x Sales(t-1) + (c) x Sales(t-2) + Loan(t)
Cash Disbursements(t) = Accounts Payable(t+1) + Interest(t) + Loan Payment(t)

Input Variables in Dollars:
Sales(t-1), Sales(t-2), Sales(t-3)
Loan(t), Loan Payment(t)
(a): Accounts Receivable Collection Pattern in current period
(b): Accounts Receivable Collection Pattern one period ago
(c): Accounts Receivable Collection Pattern two periods ago
(a) + (b) + (c) < 1.0

Parameters (Initial Values in Dollars):
Cash(t-1), Sales(t-1), Sales(t-2), Bank Loan(t-1), Accounts Payable(t-1)

Chapter

5

Making the Budgeting Process Work

Now that we understand what goes into financial planning, it is time to focus on how to make the process into a value-added activity. Many organizations are attempting to re-engineer budgeting practices since budgeting is usually a non-value added activity; i.e. it does not add value to the decision making process. The goal is to make the entire financial planning process into a decision support service within the organization whereby the benefits of the process exceed the costs.

In order to fully comprehend the problems associated with budgeting, let's quickly list the top ten problems with budgeting according to Controller Magazine:

1. Takes too long to prepare.
2. Doesn't help us run our business.
3. Budgets are out-of-date by the time we get them.
4. Too much playing with the numbers.
5. Too many iterations / repetitive tasks within the process.
6. Budgets are cast in stone in a constantly changing business environment.
7. Too many people are involved in the budgeting process.
8. Unable to control budget allocations.
9. By the time budgets are complete, I don't recognize the numbers.
10. Budgets do not match the strategic goals and objectives of the organization.

We will now discuss several ways of making budgeting into a value-added activity within the organization.

Automate the Process

In order for budgeting to be value-added, it must accept revisions quickly and easily. A highly automated budgeting process can help streamline the process for quick and easy updating. As a minimum, budgets should be maintained on spreadsheets. A spreadsheet (such as Excel, Lotus 1-2-3, etc.) can have an input panel for entering variables and automatic generation of budgets within a fully integrated set of spreadsheets. For example, we can use a formula to calculate interest expense as:

Interest Rate x (Beginning Long Term Debt + Current Portion of Long Term Debt + External Financing Using Long Term Debt)

Spreadsheets also allow us to perform sensitivity analysis. We can simply enter new variables into the input panel and review the impact on our budgets.

We can also use more formal software programs for budgeting. The best software programs will give us the option of controlling the level of detail. For example, do we want a cash budget by customer or do we want cash budgets by account or can we simply enter the cash flow data ourselves? It is very important that we have control over the detail since commercial programs sometimes over-analyze transactions and provide way too much detail. This is why many financial planners prefer spreadsheets over commercial programs.

Ten Best Practices in Budgeting

Finally, here are some best practices that can transform budgeting into a value-added activity:

1. Budgeting must be linked to strategic planning since strategic decisions usually have financial implications.

2. Make budgeting procedures part of strategic planning. For example, strategic assessments should include historical trends, competitive analysis, and other procedures that might otherwise take place within the budgeting process.

3. The Budgeting Process should minimize the time spent collecting and gathering data and spend more time generating information for strategic decision making.

4. Get agreement on summary budgets before you spend time preparing detail budgets.

5. Automate the collection and consolidation of budgets within the entire organization. Users should have access to budgeting systems for easy updating.

6. Budgets need to accept changes quickly and easily. Budgeting should be a continuous process that encourages alternative thinking.

7. Line item detail in budgets should be based on material thresholds and not rely on a system of general ledger accounts.

8. Budgets should give lower level managers some form of fiscal control over what is going on.

9. Leverage your financial systems by establishing a data warehouse that can be used for both financial reporting and budgeting.

10. Multi-National Companies should have a budgeting system that can handle inter-company elimination's and foreign currency conversions.

Summary

Financial Planning is a continuous process that flows with strategic decision making. The Operating Plan and the Financial Plan will both support the Strategic Plan. The best place to start in preparing a budget is with sales since this is a driving force behind much of our financial activity. However, we have to take into account numerous factors before we can finalize our budgets.

Budgeting should be flexible, allowing modification when something changes. For example, the following will impact budgeting:

- Life cycle of the business
- Financial conditions of the business
- General economic conditions
- Competitive situation
- Technology trends
- Availability of resources

Budgeting should be both top down and bottom up; i.e. upper level management and middle level management will both work to finalize a budget. We can streamline the budgeting process by developing a financial model. Financial models can facilitate "what if" analysis so we can assess decisions before they are made. This can dramatically improve the budgeting process.

One of the biggest challenges within financial planning and budgeting is how do we make it value-added. Budgeting requires clear channels of communication, support from upper-level management, participation from various personnel, and predictive characteristics. Budgeting should not strive for accuracy, but should strive to support the decision making process. If we focus too much on accuracy, we will end-up with a budgeting process that incurs time and costs in excess of the benefits derived. The challenge is to make financial planning a value-added activity that helps the organization achieve its strategic goals and objectives.

Final Exam

Select the best answer for each question. Exams are graded and administered by installing the exe file version of this course. The exe file version of this course can be downloaded over the internet at www.exinfm.com/training.

1. In order for budgeting to really work, we must link the budgeting process with:

   a. Financial Statements

   b. Accounting Transactions

   c. Strategic Planning

   d. Operating Reports

2. The first forecast we will prepare for budgeting will be the:

   a. Budgeted Income Statement

   b. Sales Forecast

   c. Cash Budget

   d. Budgeted Balance Sheet

3. Taylor Manufacturing has compiled the following production information for manufacturing jugs of beverages:

   Planned production is 6,000 jugs
   Materials required per jug: 10 pounds of powder
   Desired Ending Inventory for Materials: 4,000 pounds
   Beginning Inventory for Materials: 3,000 pounds
   Purchase Cost for Materials: $ 2.00 per pound

   Based on the above information, what is the total cost for planned materials purchased?

   a. $ 110,000

   b. $ 120,000

   c. $ 122,000

   d. $128,000

4. Which of the following detail budgets will help us prepare the Budgeted Income Statement?

    a. Direct Labor Budget

    b. Cash Budget

    c. Budgeted Balance Sheet

    d. Year End Balance Sheet

5. If accounts payable have historically been 20% of sales and we have estimated sales of $ 200,000, than estimated accounts payable must be:

    a. $ 10,000

    b. $ 20,000

    c. $ 30,000

    d. $ 40,000

6. Which budget is prepared for determining how much external financing we will need to support estimated sales?

    a. Cash Budget

    b. Budgeted Income Statement

    c. Budgeted Balance Sheet

    d. Sales Forecast

7. A good place to start in preparing the Budgeted Balance Sheet is with the main link between the Income Statement and the Balance Sheet. This link is:

    a. Cash

    b. Retained Earnings

    c. Current Assets

    d. Long Term Liabilities

8. One way to improve the budgeting process is to include qualitative techniques into forecasting. Which of the following is an example of a qualitative technique?

    a. 5 Year Trend Analysis

    b. Ratio Analysis

    c. Percent of Sales Method

d. Interviewing the President of the Company

9. Statistical methods can be used to improve the accuracy of forecasting. This approach is particularly useful for forecasting sales since we are searching for the right fit based on several observations. One popular approach to finding the right statistical fit is to use:

    a. Exponential Smoothing

    b. Regression Analysis

    c. Executive Polling

    d. Moving Average

10. Which of the following will contribute to making budgeting a **non**-value added activity; i.e. the cost of budgeting exceeds the benefit?

    a. The budgeting process is included within the strategic planning process.

    b. Detail and Summary Budgets are prepared at the same time and are distributed to management for approval.

    c. Budgets throughout the organization are automated for enterprise-wide consolidation.

    d. Line item detail in budgets is based on material thresholds.