

Financial Management

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MGM424

Lecture 6



Financial Management

Lecture 6

MGM424 The Financial Forecasting

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Chapter

06

The Financial Forecasting





Chapter

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The Financial Forecasting

Introduction to Financial Planning.

The Financial Planning Process.

Cash Planning: Cash Budgets.

Preparing The Cash Budget.

Profit Planning: Pro Forma Statements.

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Introduction to Financial Planning

Importance of Financial Planning

Financial planning is the cornerstone of successful business management. It involves setting clear financial goals, developing strategies to achieve them, and monitoring progress over time. Effective financial planning ensures that an organization can:

- **Allocate Resources Efficiently:** By understanding financial constraints and opportunities, businesses can prioritize investments and operational expenditures that yield the highest returns.



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Introduction to Financial Planning

Importance of Financial Planning

- **Manage Risks:** Anticipating financial challenges allows companies to implement risk mitigation strategies, safeguarding against market volatility, economic downturns, or unexpected expenses.
- **Achieve Long-Term Objectives:** A well-crafted financial plan aligns short-term actions with long-term goals, ensuring sustainable growth and profitability.



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Introduction to Financial Planning

Overview of Cash Budgeting and Its Role in Decision Making

Cash budgeting is a critical tool within financial planning that focuses on forecasting and managing a company's cash inflows and outflows over a specific period. Its role in decision making includes:

- Ensuring Liquidity:** By projecting future cash positions, businesses can ensure they have sufficient funds to meet obligations, such as paying suppliers, employees, and creditors.



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Introduction to Financial Planning

Overview of Cash Budgeting and Its Role in Decision Making

- **Facilitating Strategic Decisions:** Understanding cash availability helps in making informed decisions about capital investments, expansion plans, or cost-cutting measures.
- **Preventing Insolvency:** Regular cash budgeting helps identify potential cash shortfalls in advance, allowing management to arrange financing or adjust operations accordingly.



Understanding Cash Budgeting

Definition and Purpose:

Cash Budgeting is the process of estimating all cash receipts and disbursements expected to occur during a specific period, typically broken down monthly, weekly, or even daily. The primary purposes of cash budgeting are:

- **Forecasting Cash Flow:** Predicting when cash will be received and when it needs to be paid out.
- **Managing Liquidity:** Ensuring the organization can meet its short-term obligations without disrupting operations.
- **Planning for Surpluses and Shortfalls:** Identifying periods of excess cash that can be invested and anticipating deficits that may require financing.



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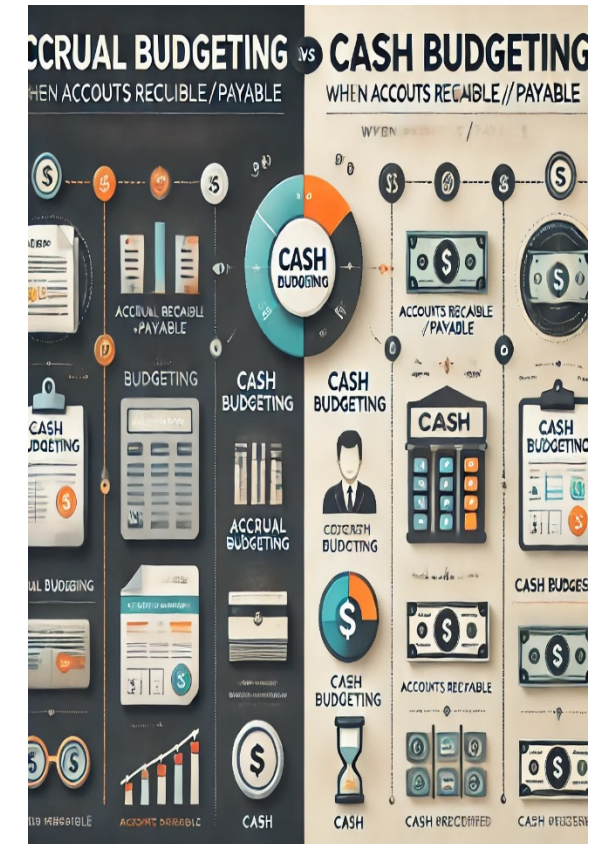
Introduction to Financial Planning

Differences Between Cash Budgeting and Other Budgeting Methods

While cash budgeting focuses solely on cash transactions, other budgeting methods may consider non-cash items and use accrual accounting principles. Key differences include:

- **Accrual vs. Cash Basis:**

- *Accrual Budgeting:* Recognizes revenues and expenses when they are earned or incurred, regardless of when cash is exchanged.
- *Cash Budgeting:* Records transactions only when cash is received or paid, providing a clearer picture of actual cash flow.



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Introduction to Financial Planning

Differences Between Cash Budgeting and Other Budgeting Methods

•Inclusion of Non-Cash Items:

- Accrual budgets include non-cash expenses like depreciation and amortization, which do not affect cash flow.
- Cash budgets exclude these items, focusing on tangible cash movements.

•Purpose and Use Cases:

- Accrual budgeting is useful for assessing profitability and long-term financial health.
- Cash budgeting is essential for day-to-day liquidity management and ensuring operational continuity.



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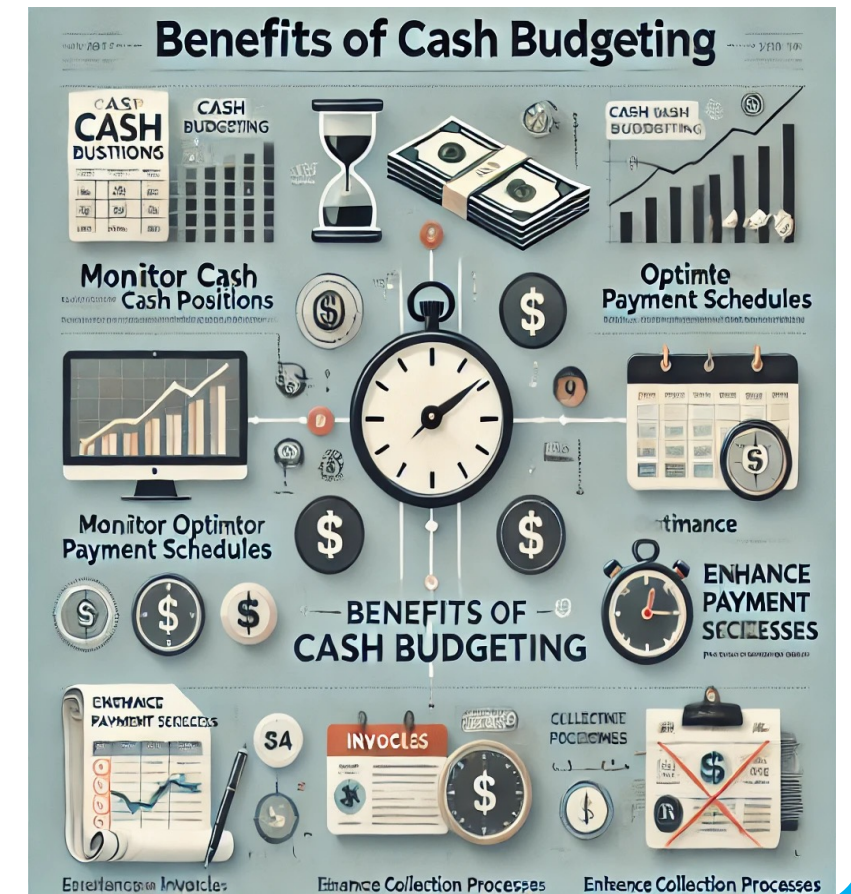
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Benefits of Cash Budgeting

Improved Cash Flow Management

Effective cash budgeting enables organizations to:

- **Monitor Cash Positions:** Regularly tracking cash inflows and outflows helps maintain optimal cash balances.
- **Optimize Payment Schedules:** Timing payments strategically to suppliers and creditors can improve cash availability.
- **Enhance Collection Processes:** Identifying delays in receivables allows for proactive measures to expedite cash inflows.



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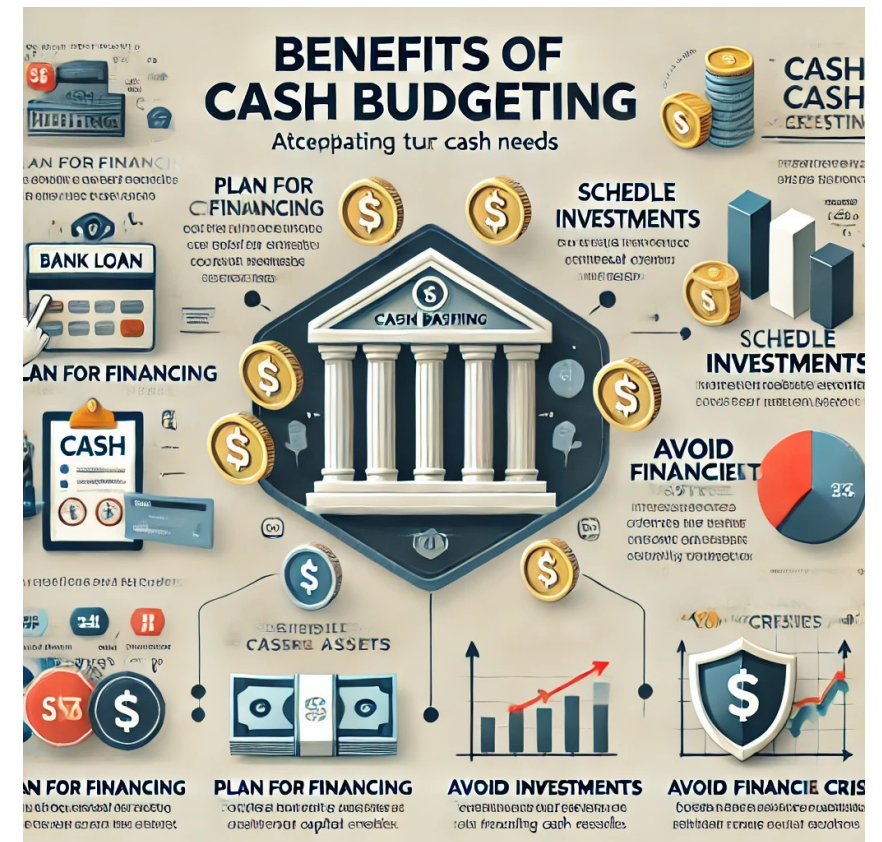
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Benefits of Cash Budgeting.

Anticipation of Future Cash Needs

By forecasting future cash requirements, businesses can:

- **Plan for Financing:** Arrange lines of credit or other financing options in advance to cover anticipated shortfalls.
- **Schedule Investments:** Allocate surplus cash to investments or capital expenditures at optimal times.
- **Avoid Financial Crises:** Early detection of potential cash shortages prevents last-minute scrambling for funds, reducing the risk of insolvency.



Benefits of Cash Budgeting

Enhanced Decision-Making Capabilities

Cash budgeting provides valuable insights that inform strategic decisions:

- **Investment Opportunities:** Understanding cash availability aids in evaluating and seizing investment opportunities that align with business objectives.
- **Cost Management:** Identifying periods of tight cash flow encourages cost-saving measures and operational efficiency improvements.
- **Growth Strategies:** Clear cash flow projections support decisions related to expansion, hiring, and entering new markets, ensuring that growth initiatives are financially sustainable.



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The Financial Planning Process

Financial Planning Process begins with long-term, or strategic, financial plans.

These plans, in turn, guide the formulation of short-term, or operating, plans and budgets.

The short-term plans and budgets implement the firm's long-term strategic objectives



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The Financial Planning Process

LONG-TERM (STRATEGIC) FINANCIAL PLANS:

- Plans that lay out a company's planned financial actions and the anticipated impact of those actions over periods ranging from 2 to 10 years.

Short-Term (OPERATING) FINANCIAL PLANS:

- Specify short-term financial actions and the anticipated impact of those action These plans most often cover a 1- to 2-year period.



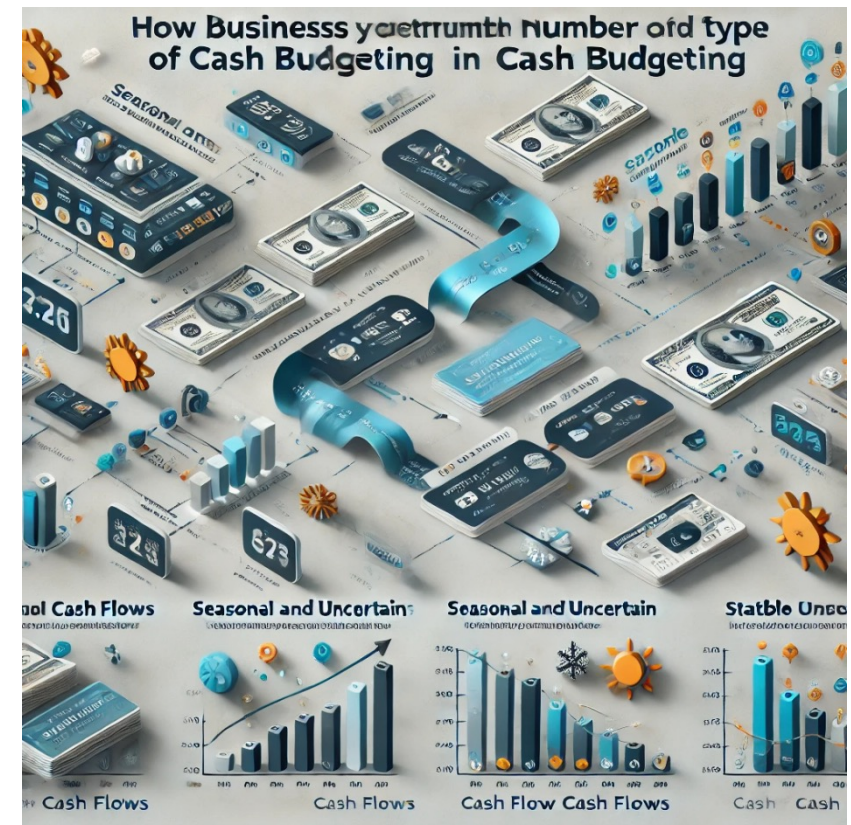
- # Cash Planning: Cash Budgets



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Cash Planning: Cash Budgets

- **The number** and type of intervals depend on the nature of the business.
- **The more seasonal and uncertain** a firm's cash flows, the greater the number of intervals.
- **Firms with stable patterns** of cash flow may use quarterly or annual time intervals



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Cash Planning: Cash Budgets

The Sales Forecast:

- **The key input** to the short-term financial planning process is the firm's sales forecast.
- **The financial manager estimates** the monthly cash flows that will result from projected sales and from expenses related to production, inventory, and sales.
- **The manager also determines** the level of fixed assets required and the amount of financing, if any, needed to support the forecast level of sales and production.



Preparing The Cash Budget.

TABLE 4.7 The General Format of the Cash Budget

	Jan.	Feb.	...	Nov.	Dec.
Total cash receipts	\$XXA	\$XXH		\$XXN	\$XXU
Less: Total cash disbursements	<u>XXB</u>	<u>XXI</u>	...	<u>XXO</u>	<u>XXV</u>
Net cash flow	\$XXC	\$XXJ		\$XXP	\$XXW
Add: Beginning cash	<u>XXD</u>	<u>XXE</u>	<u>XXK</u>	<u>XXQ</u>	<u>XXR</u>
Ending cash	\$XXE	\$XXK		\$XXR	\$XXX
Less: Minimum cash balance	<u>XXF</u>	<u>XXL</u>	...	XXS	<u>XXY</u>
Required total financing		\$XXM		\$XXT	
Excess cash balance	\$XXG				\$XXZ

Preparing The Cash Budget.

Total Cash receipt:

Example:

- Coulson Industries, a defense contractor, is developing a cash budget for October, November, and December.
- Coulson's sales in August and September were \$100,000 and \$200,000, respectively.
- Sales of \$400,000, \$300,000, and \$200,000 have been forecast for October, November, and December, respectively.
- Historically, 20% of the firm's sales have been for cash, 50% have generated accounts receivable collected after 1 month, and the remaining 30% have generated accounts receivable collected after 2 months.
- Bad-debt expenses (uncollectible accounts) have been negligible.
- In December, the firm will receive a \$30,000 dividend from stock in a subsidiary.

Preparing The Cash Budget.

Solution

TABLE 4.8 A Schedule of Projected Cash Receipts for Coulson Industries (\$000)

	Aug. \$100	Sept. \$200	Oct. \$400	Nov. \$300	Dec. \$200
Sales forecast					
Cash sales (0.20)	\$20	\$40	\$ 80	\$ 60	\$ 40
Collections of A/R:					
Lagged 1 month (0.50)		50	100	200	150
Lagged 2 months (0.30)			30	60	120
Other cash receipts	—	—	—	—	30
Total cash receipts	<u>\$20</u>	<u>\$90</u>	<u>\$210</u>	<u>\$320</u>	<u>\$340</u>

Preparing The Cash Budget.

Total cash disbursements:

- **Example:**

Coulson Industries has gathered the following data needed for the preparation of a cash disbursements schedule for October, November, and December.

Purchases: The firm's purchases represent 70% of sales. Of this amount, 10% is paid in cash, 70% is paid in the month immediately following the month of purchase, and the remaining 20% is paid 2 months following the month of purchase.

Rent payments: Rent of \$5,000 will be paid each month.

Wages and salaries: Fixed salaries for the year are \$96,000, or \$8,000 per month. In addition, wages are estimated as 10% of monthly sales

Preparing The Cash Budget.

Total cash disbursements:

- **Example:**

Tax payments: Taxes of \$25,000 must be paid in December.

Fixed-asset outlays: New machinery costing \$130,000 will be purchased and paid for in November.

Interest payments: An interest payment of \$10,000 is due in December.

Cash dividend payments: Cash dividends of \$20,000 will be paid in October.

Principal payments (loans): A \$20,000 principal payment is due in December.

Repurchases or retirements of stock: No repurchase or retirement of stock is expected between October and December.

Preparing The Cash Budget.

Solution

TABLE 4.9

A Schedule of Projected Cash Disbursements for Coulson Industries (\$000)

	Aug.	Sept.	Oct.	Nov.	Dec.
Purchases ($0.70 \times \text{sales}$)	\$70	\$140	\$280	\$210	\$140
Cash purchases (0.10)	\$7	\$14	\$ 28	\$ 21	\$ 14
Payments of A/P:					
Lagged 1 month (0.70)		49	98	196	147
Lagged 2 months (0.20)			14	28	56
Rent payments			5	5	5
Wages and salaries			48	38	28
Tax payments					25
Fixed-asset outlays				130	
Interest payments					10
Cash dividend payments			20		
Principal payments	—	—	—	—	20
Total cash disbursements	<u>\$7</u>	<u>\$63</u>	<u>\$213</u>	<u>\$418</u>	<u>\$305</u>

Preparing The Cash Budget.

- The company beginning cash balance in oct is 50,000
- The company wishes to maintain, as a reserve for unexpected needs, a minimum cash balance of \$25,000.

TABLE 4.10 A Cash Budget for Coulson Industries (\$000)

	Oct.	Nov.	Dec.
Total cash receipts ^a	\$210	\$ 320	\$ 340
Less: Total cash disbursements ^b	<u>213</u>	<u>418</u>	<u>305</u>
Net cash flow	(\$ 3)	(\$ 98)	\$ 35
Add: Beginning cash	<u>50</u>	<u>47</u>	(<u>51</u>)
Ending cash	\$ 47	(\$ 51)	(\$ 16)
Less: Minimum cash balance	<u>25</u>	<u>25</u>	<u>25</u>
Required total financing (notes payable) ^c		\$ 76	\$ 41
Excess cash balance (marketable securities) ^d	\$ 22		

Preparing The Cash Budget.

Evaluating The Cash Budget:

Account	<u>End-of-month balance (\$000)</u>		
	Oct.	Nov.	Dec.
Cash	\$25	\$25	\$25
Marketable securities	22	0	0
Notes payable	0	76	41

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Profit Planning: Pro Forma Statements

- Whereas cash planning focuses on forecasting cash flows,
- **profit planning focuses** on projecting the firm's profit and overall financial position.
- **pro forma statements:** projected income statements and balance sheets.



Profit Planning: Pro Forma Statements

TABLE 4.12

Vectra Manufacturing's Income Statement for the Year Ended December 31, 2015

Sales revenue	
Model X (1,000 units at \$20/unit)	\$ 20,000
Model Y (2,000 units at \$40/unit)	<u>80,000</u>
Total sales	<u>\$100,000</u>
Less: Cost of goods sold	
Labor	\$ 28,500
Material A	8,000
Material B	5,500
Overhead	<u>38,000</u>
Total cost of goods sold	<u>\$ 80,000</u>
Gross profits	\$ 20,000
Less: Operating expenses	<u>10,000</u>
Operating profits	\$ 10,000
Less: Interest expense	<u>1,000</u>
Net profits before taxes	\$ 9,000
Less: Taxes ($0.15 \times \$9,000$)	<u>1,350</u>
Net profits after taxes	\$ 7,650
Less: Common stock dividends	<u>4,000</u>
To retained earnings	<u>\$ 3,650</u>

Profit Planning: Pro Forma Statements

TABLE 4.14 2016 Sales Forecast for Vectra Manufacturing

Unit sales		Dollar sales	
Model X	1,500	Model X (\$25/unit)	\$ 37,500
Model Y	1,950	Model Y (\$50/unit)	<u>97,500</u>
		Total	<u><u>\$135,000</u></u>

Profit Planning: Pro Forma Statements

percent-of-sales method:

- It forecasts sales and then expresses the various income statement items as percentages of projected sales.
- assumes that all the firm's costs and expenses are variable. That is, for a given percentage increase in sales, the same percentage increase in cost of goods sold, operating expenses, and interest expense would result.
- assume that Vectra will pay \$4,000 in common stock dividends, prepare a proforma income statement for the yare 2016

Profit Planning: Pro Forma Statements

Solution

TABLE 4.15

A Pro Forma Income Statement, Using the Percent-of-Sales Method, for Vectra Manufacturing for the Year Ended December 31, 2016

Sales revenue	\$135,000
Less: Cost of goods sold (0.80)	<u>108,000</u>
Gross profits	\$ 27,000
Less: Operating expenses (0.10)	<u>13,500</u>
Operating profits	\$ 13,500
Less: Interest expense (0.01)	<u>1,350</u>
Net profits before taxes	\$ 12,150
Less: Taxes (0.15 × \$12,150)	<u>1,823</u>
Net profits after taxes	\$ 10,327
Less: Common stock dividends	<u>4,000</u>
To retained earnings	<u><u>\$ 6,327</u></u>

Profit Planning: Pro Forma Statements

- **Because this approach assumes** that all costs are variable, it may understate the increase in profits that will occur when sales increase if some of the firm's costs are fixed.
- **Net profits before taxes** (in 2015, \$9,000 net profits before taxes ÷ \$100,000 sales). 9% of sales.
- Therefore, the 2016 net profits before taxes would have been \$12,150 ($0.09 \times \$135,000$ projected sales).
- **Instead of the** \$28,250 obtained by using the firm's fixed-cost–variable-cost breakdown.

Profit Planning: Pro Forma Statements

Vectra Manufacturing Income Statements

	2015 Actual	2016 pro forma
Sales revenue	\$100,000	\$135,000
Less: Cost of goods sold		
Fixed cost	40,000	40,000
Variable cost ($0.40 \times \text{sales}$)	<u>40,000</u>	<u>54,000</u>
Gross profits	<u>\$ 20,000</u>	<u>\$ 41,000</u>
Less: Operating expenses		
Fixed expense	\$ 5,000	\$ 5,000
Variable expense ($0.05 \times \text{sales}$)	<u>5,000</u>	<u>6,750</u>
Operating profits	\$ 10,000	\$ 29,250
Less: Interest expense (all fixed)	<u>1,000</u>	<u>1,000</u>
Net profits before taxes	\$ 9,000	\$ 28,250
Less: Taxes ($0.15 \times \text{net profits before taxes}$)	<u>1,350</u>	<u>4,238</u>
Net profits after taxes	<u>\$ 7,650</u>	<u>\$ 24,012</u>

Profit Planning: Pro Forma Statements

judgmental approach:

- A simplified approach for preparing the pro forma balance sheet under which the firm estimates the values of certain balance sheet accounts and uses its external financing as a balancing, or “plug,” figure.

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Profit Planning: Pro Forma Statements

TABLE 4.13 Vectra Manufacturing's Balance Sheet, December 31, 2015

Assets		Liabilities and stockholders' equity	
Cash	\$ 6,000	Accounts payable	\$ 7,000
Marketable securities	4,000	Taxes payable	300
Accounts receivable	13,000	Notes payable	8,300
Inventories	<u>16,000</u>	Other current liabilities	<u>3,400</u>
Total current assets	\$39,000	Total current liabilities	\$19,000
Net fixed assets	<u>51,000</u>	Long-term debt	<u>18,000</u>
Total assets	<u>\$90,000</u>	Total liabilities	\$37,000
		Common stock	30,000
		Retained earnings	<u>23,000</u>
		Total liabilities and stockholders' equity	<u>\$90,000</u>

Profit Planning: Pro Forma Statements

- **Example:**
 - 1- A minimum cash balance of \$6,000 is desired.
 - 2- Marketable securities will remain unchanged from their current level of \$4,000.
 - 3- Accounts receivable on average represent about 45 days of sales (about 1/8 of a year).
 - 4- The ending inventory should remain at a level of about \$16,000, of which 25 percent (approximately \$4,000) should be raw materials and the remaining 75 percent (approximately \$12,000) should consist of finished goods.

Profit Planning: Pro Forma Statements

5- A new machine costing \$20,000 will be purchased. Total depreciation for the year is \$8,000.

6- Purchases will represent approximately 30 percent of annual sales, The firm estimates that it can take 73 days on average to satisfy its accounts payable.

7-Taxes payable will equal one-fourth of the current year's tax liability.

8. Notes payable will remain unchanged from their current level of \$8,300.

9. No change in other current liabilities is expected. They remain at the level of the previous year: \$3,400.

Profit Planning: Pro Forma Statements

10. The firm's long-term debt and its common stock will remain unchanged at \$18,000 and \$30,000, respectively; no issues, retirements, or repurchases of bonds or stocks are planned.

11. Retained earnings will increase from the beginning level of \$23,000 (from the balance sheet dated December 31, 2015, in Table 4.13) to \$29,327

Profit Planning: Pro Forma Statements

Solution:

TABLE 4.16

**A Pro Forma Balance Sheet, Using the Judgmental Approach,
for Vectra Manufacturing (December 31, 2016)**

Assets		Liabilities and stockholders' equity	
Cash	\$ 6,000	Accounts payable	\$ 8,100
Marketable securities	4,000	Taxes payable	455
Accounts receivable	16,875	Notes payable	8,300
Inventories		Other current liabilities	<u>3,400</u>
Raw materials	\$ 4,000	Total current liabilities	\$ 20,255
Finished goods	<u>12,000</u>	Long-term debt	<u>18,000</u>
Total inventory	<u>16,000</u>	Total liabilities	\$ 38,255
Total current assets	\$ 42,875	Common stock	30,000
Net fixed assets	<u>63,000</u>	Retained earnings	<u>29,327</u>
Total assets	<u>\$105,875</u>	Total	\$ 97,582
		External financing required ^a	<u>8,293</u>
		Total liabilities and stockholders' equity	<u>\$105,875</u>

^aThe amount of external financing needed to force the firm's balance sheet to balance. Because of the nature of the judgmental approach, the balance sheet is not expected to balance without some type of adjustment.

Profit Planning: Pro Forma Statements

Solution:

- 3- Accounts receivable on average represent about 45 days of sales (about $1/8$ of a year). Because Vectra's annual sales are projected to be \$135,000, accounts receivable should average \$16,875 ($1/8 \times \$135,000$).
- 5- A new machine costing \$20,000 will be purchased. Total depreciation for the year is \$8,000. Adding the \$20,000 acquisition to the existing net fixed assets of \$51,000 and subtracting the depreciation of \$8,000 yields net fixed assets of \$63,000.

Profit Planning: Pro Forma Statements

Solution:

- 6- Purchases will represent approximately 30 percent of annual sales, which in this case is approximately \$40,500 ($0.30 \times \$135,000$). The firm estimates that it can take 73 days on average to satisfy its accounts payable. Thus accounts payable should equal one-fifth ($73 \text{ days} \div 365 \text{ days}$) of the firm's purchases, or \$8,100 ($1/5 \times \$40,500$)

Profit Planning: Pro Forma Statements

Solution:

- 7- Taxes payable will equal one-fourth of the current year's tax liability, which equals \$455 (one-fourth of the tax liability of \$1,823 shown in the pro forma income statement in Table 4.15).
- 11. Retained earnings will increase from the beginning level of \$23,000 (from the balance sheet dated December 31, 2015, in Table 4.13) to \$29,327. The increase of \$6,327 represents the amount of retained earnings calculated in the year-end 2016 pro forma income statement in Table 4.15.

Profit Planning: Pro Forma Statements

Solution:

TABLE 4.16

**A Pro Forma Balance Sheet, Using the Judgmental Approach,
for Vectra Manufacturing (December 31, 2016)**

Assets		Liabilities and stockholders' equity	
Cash	\$ 6,000	Accounts payable	\$ 8,100
Marketable securities	4,000	Taxes payable	455
Accounts receivable	16,875	Notes payable	8,300
Inventories		Other current liabilities	<u>3,400</u>
Raw materials	\$ 4,000	Total current liabilities	\$ 20,255
Finished goods	<u>12,000</u>	Long-term debt	<u>18,000</u>
Total inventory	<u>16,000</u>	Total liabilities	\$ 38,255
Total current assets	\$ 42,875	Common stock	30,000
Net fixed assets	<u>63,000</u>	Retained earnings	<u>29,327</u>
Total assets	<u>\$105,875</u>	Total	\$ 97,582
		External financing required ^a	<u>8,293</u>
		Total liabilities and stockholders' equity	<u>\$105,875</u>

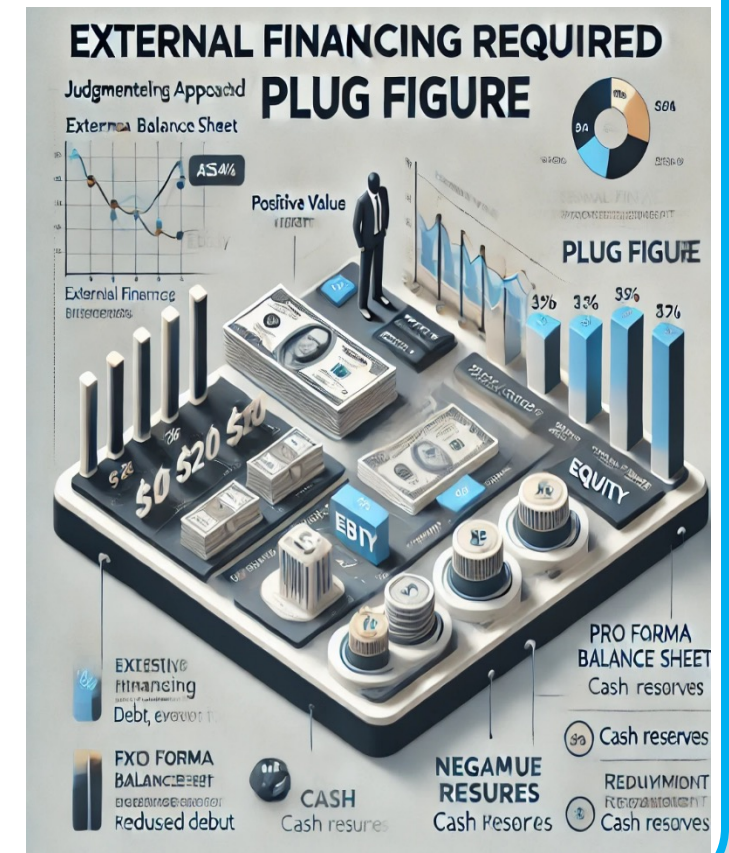
^aThe amount of external financing needed to force the firm's balance sheet to balance. Because of the nature of the judgmental approach, the balance sheet is not expected to balance without some type of adjustment.

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Profit Planning: Pro Forma Statements

external financing required (“plug” figure):

- Under the judgmental approach for developing a pro forma balance sheet, the amount of external financing needed to bring the statement into balance. It can be either a positive or a negative value.
- **positive value:** based on its plans, the firm will not generate enough internal financing to support its forecast growth in assets. To support the forecast level of operation, the firm must raise funds externally by using debt and/or equity financing or by reducing dividends.

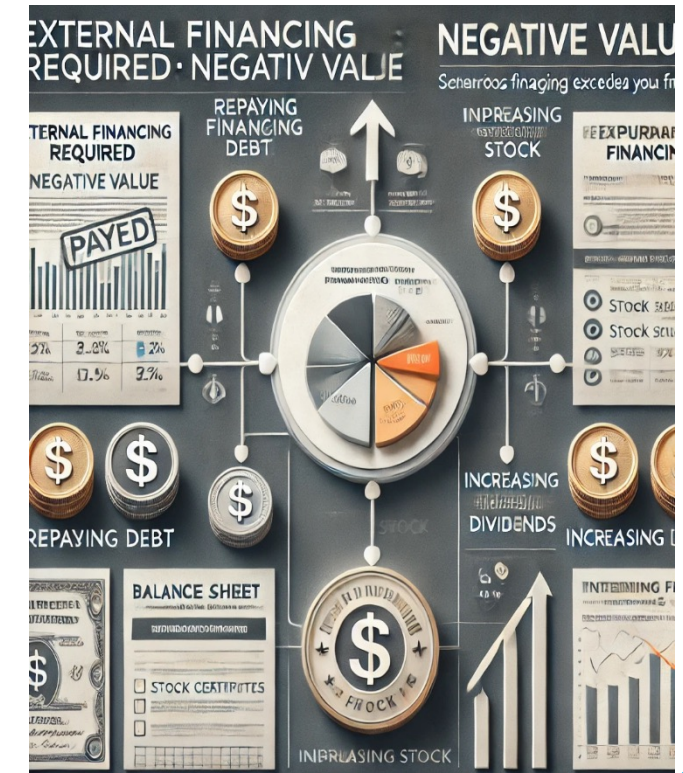


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Profit Planning: Pro Forma Statements

Negative value:

- the firm will generate more financing internally than it needs to support its forecast growth in assets.
- In this case, funds are available for use in repaying debt, repurchasing stock, or increasing dividends.





Thank You