# The Master Budget

Chapter 9

# Objective 1

Describe how and why managers use budgets

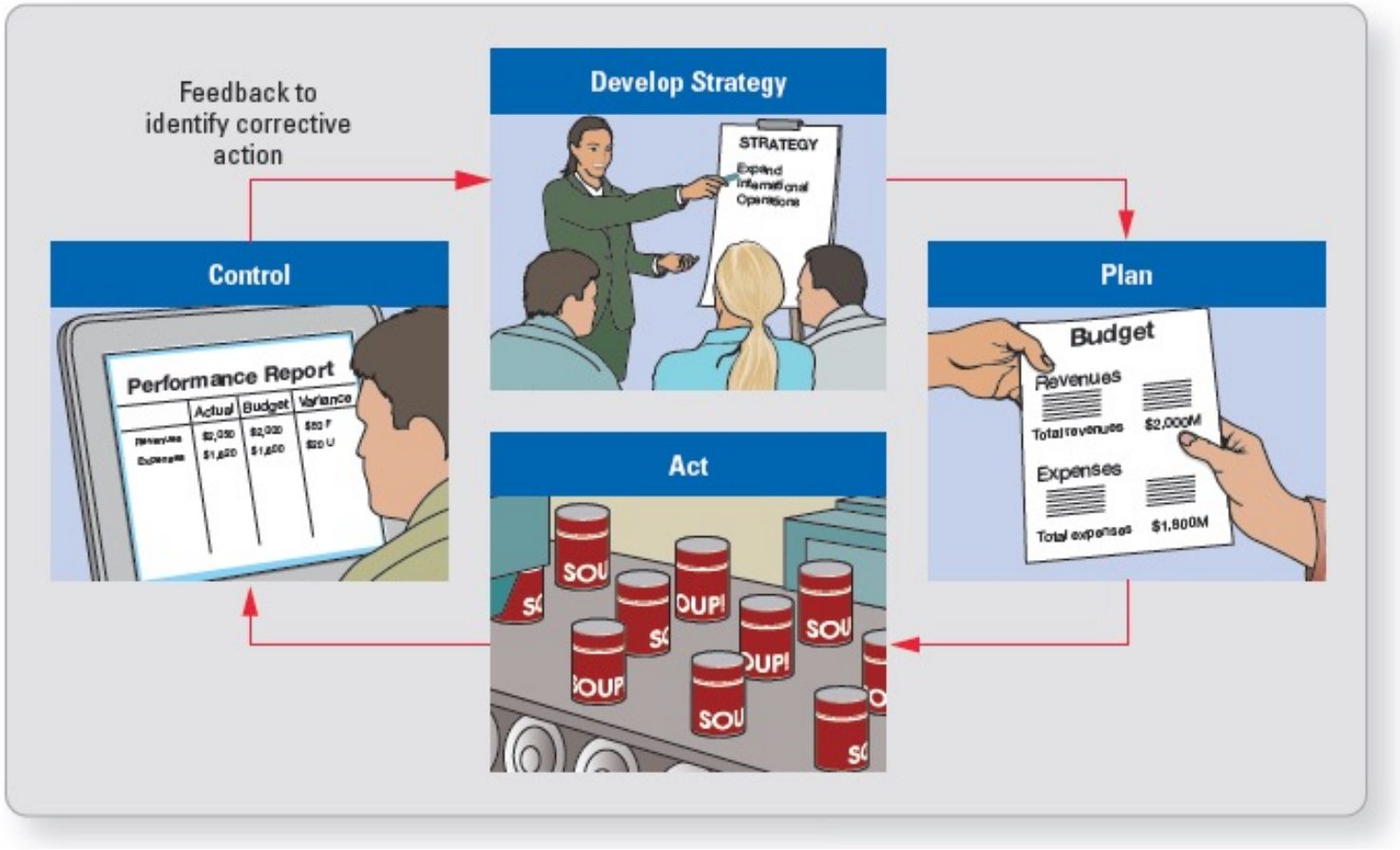
# Budgeting

- This section: how budgets are used and developed, the benefits of budgeting, and the particular budgets that are prepared as part of the company's master budget.
- How are Budgets Used?
- How are Budgets Developed?
- What are the Benefits of Budgeting?

# How are Budgets Used?

- A plan for a specific period of time
- Helps management determine how to use resources
- To plan for the future and control the revenues and expenses related to those plans
- Manager's responsibility: planning, directing, and controlling operations

# Budgeting



# How are budgets Developed?

- **Strategic planni**ng: it involves setting long-term goals that may extend 5 to 10 years into the future.
- Yearly, quarterly, monthly, and weekly
- **Rolling budget**: it is a budget that is continuously updated so that the next 12 months of operations are always budgeted.

# Participative Budgeting

- Top-down approach? No
- Participative Budgeting: it involves the participation of many levels of management.
- Benefits

- Disadvantages

# Participative Budgeting

- Budget committee

reviews the submitted budgets and say yes/no.

Includes upper management; managers from every area of the value chain

# Starting Point for Developing the Budgets

- Prior year's budgeted figures or actual results
  The prior year's figures are modified to reflect:

1) New products, customers, or geographical areas
2) Changes in the marketplace caused by competitors
3) Changes in labor contracts, raw material, and fuel costs
4) Inflation
5) New strategies

# Starting Point for Developing the Budgets

- Zero-based budgeting

All managers begin with a budget of zero and must justify *every dollar* they put in the budget.

This budgeting approach is very time-consuming and labor intensive. Therefore, companies only use it from time to time in order to keep their expenses in check.

# Benefits of Budgeting

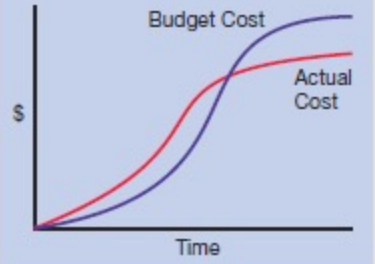
**PLANNING**


Budgets force managers to plan.

**COMMUNICATION**

Budgets promote coordination and communication.

**BENCHMARKING**



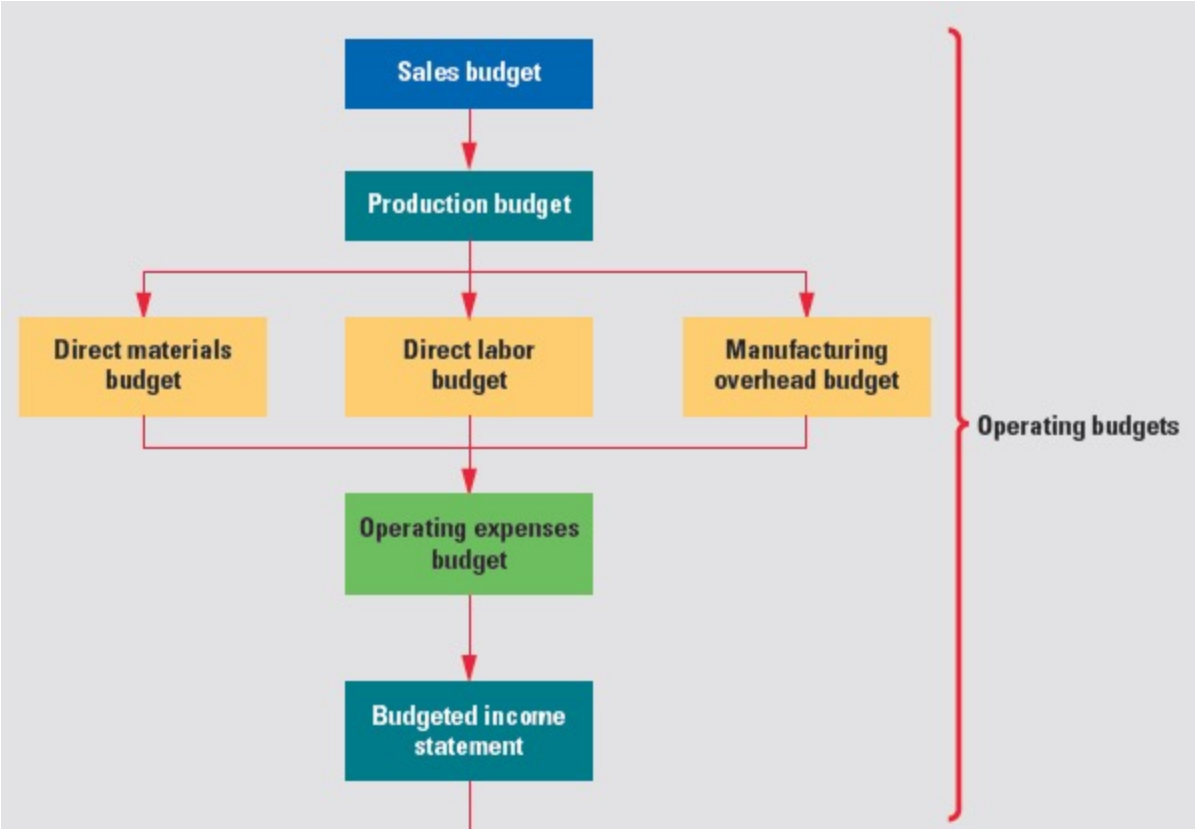

Budgets provide a benchmark that motivates employees and helps managers evaluate performance.

# Master Budget

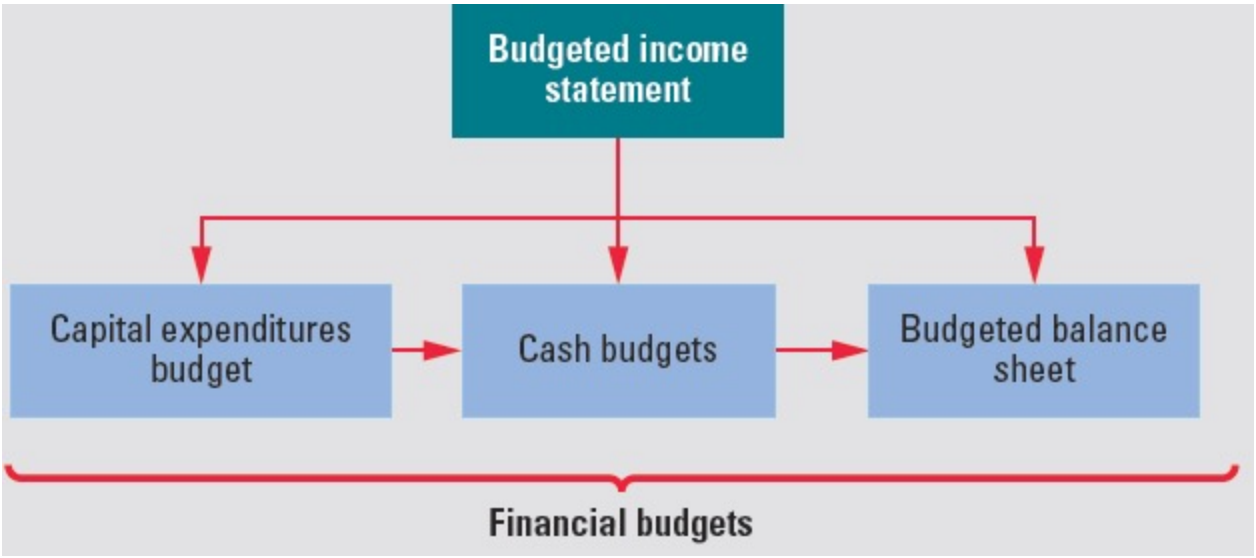
- Comprehensive planning document for entire organization

- Consists of all supporting budgets

# Operating Budget



# Financial Budgets



# Objective 2

Prepare the operating budgets

# Sales Budget

- Plan for sales revenues in future periods

# Sales Budget (Exhibit 9-5)

| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | Tucson Tortilla | | | | |
| 2 | Sales Budget | | | | |
| 3 | For the Quarter Ended March 31 | | | | |
| 4 | | Month | | | |
| 5 | | January | February | March | 1st Quarter |
| 6 | Unit sales (cases) | 30,000 | 20,000 | 25,000 | 75,000 |
| 7 | Multiply by: Sales price per case | $ 20 | $ 20 | $ 20 | $ 20 |
| 8 | Total sales revenue | $ 600,000 | $ 400,000 | $ 500,000 | $ 1,500,000 |
| 9 | | | | | |
| 10 | **Type of sale:** | | | | |
| 11 | Cash sales (20%) | $ 120,000 | $ 80,000 | $ 100,000 | $ 300,000 |
| 12 | Credit sales (80%) | 480,000 | 320,000 | 400,000 | 1,200,000 |
| 13 | Total sales revenue | $ 600,000 | $ 400,000 | $ 500,000 | $ 1,500,000 |
| 14 | | | | | |

# Now turn to S9-3

Duke Sports Medicine, Inc., offers two types of physical exams for students: the basic physical and the extended physical. The charge for the basic physical is $105, while the charge for the extended physical is $160. Duke expects to perform 240 basic physicals and 170 extended physicals in July, 250 basic and 230 extended in August, and 75 basic and 90 extended in September. Prepare the sales budget for the second quarter (July through September), with a column for each month and for the quarter in total.

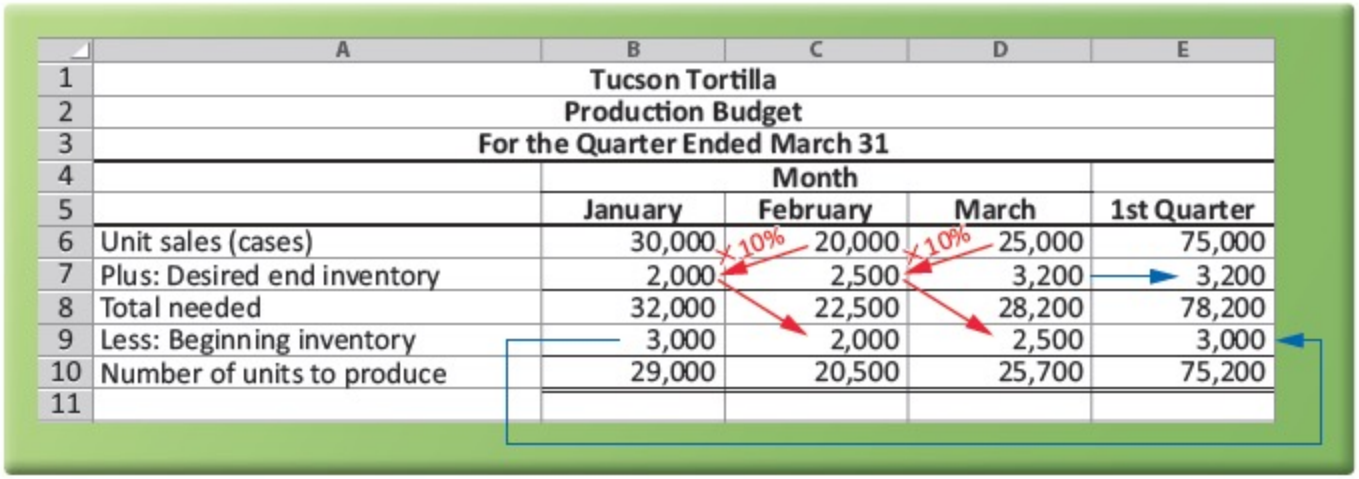
# S9-3 Sales Budget

| Dukes Sports Medicine, Inc.<br>Sales Budget<br>For the Months of July through September | | | | |
|---|---|---|---|---|
| | July | August | September | Quarter |
| Unit sales (Basic) | 240 | 250 | 75 | 565 |
| Sales price | x $105 | x $105 | x $105 | x $105 |
| Sales revenue (Basic) | $25,200 | $26,250 | $7,875 | $59,325 |
| | | | | |
| Unit sales (Extended) | 170 | 230 | 90 | 490 |
| Sales price | x $160 | x $160 | x $160 | x $160 |
| Sales revenue (Extended) | $27,200 | $36,800 | $14,400 | $78,400 |
| | | | | |
| Total sales revenue | $52,400 | $63,050 | $22,275 | $137,725 |

# Production Budget

# Production Budget (Exhibit 9-6)

| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | Tucson Tortilla | | | | |
| 2 | Production Budget | | | | |
| 3 | For the Quarter Ended March 31 | | | | |
| 4 | | Month | | | |
| 5 | | January | February | March | 1st Quarter |
| 6 | Unit sales (cases) | 30,000 | 20,000 | 25,000 | 75,000 |
| 7 | Plus: Desired end inventory | 2,000 | 2,500 | 3,200 | 3,200 |
| 8 | Total needed | 32,000 | 22,500 | 28,200 | 78,200 |
| 9 | Less: Beginning inventory | 3,000 | 2,000 | 2,500 | 3,000 |
| 10 | Number of units to produce | 29,000 | 20,500 | 25,700 | 75,200 |
| 11 | | | | | |




*NOTE: Management wants to maintain an ending inventory equal to 10% of the next month's projected sales. Projected April sales are 32,000 units. The quarter begins January 1 and ends March 31.*

# Now turn to S9-4

Trader Cycles manufactures chainless bicycles. On March 31, Trader Cycles had 220 bikes in inventory. The company has a policy that the ending inventory in any month must be 30% of the following month's expected sales. Trader Cycles expects to sell the following number of bikes in each of the next four months:

| | |
|---|---|
| April | 1,000 bikes |
| May | 1,180 bikes |
| June | 1,320 bikes |
| July | 1,200 bikes |

Prepare a production budget for the second quarter, with a column for each month and for the quarter.

# S9-4 Production budget

Trader Cycles
Production Budget
For the Months of April through June

| | Month | | | |
|---|---|---|---|---|
| | April | May | June | Quarter |
| Unit sales (from Sales Budget) | 1,000 | 1,180 | 1,320 | 3,500 |
| Plus: Desired end inventory | 354 | 396 | 360 | 360 |
| Total needed | 1,354 | 1,576 | 1,680 | 3,860 |
| Less: Beginning inventory | 220 | 354 | 396 | 220 |
| Units to produce | 1,134 | 1,222 | 1,284 | 3,640 |

# Direct Materials Budget

# Direct Materials Budget (Exhibit 9-7)

| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | **Tucson Tortilla** | | | | |
| 2 | **Direct Materials Budget for Masa Harina Corn Flour** | | | | |
| 3 | **For the Quarter Ended March 31** | | | | |
| 4 | | **Month** | | | |
| 5 | | **January** | **February** | **March** | **1st Quarter** |
| 6 | Units to be produced (from production budget) | 29,000 | 20,500 | 25,700 | 75,200 |
| 7 | Multiply by: Quantity (pounds) of DM needed per unit | 5 | 5 | 5 | 5 |
| 8 | Quantity (pounds) needed for production | 145,000 | 102,500 | 128,500 | 376,000 |
| 9 | Plus: Desired end inventory of DM | 10,250 | 12,850 | 16,150 | 16,150 |
| 10 | Total quantity (pounds) needed | 155,250 | 115,350 | 144,650 | 392,150 |
| 11 | Less: Beginning inventory of DM | 14,500 | 10,250 | 12,850 | 14,500 |
| 12 | Quantity (pounds) to purchase | 140,750 | 105,100 | 131,800 | 377,650 |
| 13 | Multiply by: Cost per pound | $ 1.50 | $ 1.50 | $ 1.50 | $ 1.50 |
| 14 | Total cost of DM purchases | $ 211,125 | $ 157,650 | $ 197,700 | $ 566,475 |
| 15 | | | | | |

*NOTE: Management wants to maintain an ending inventory equal to 10% of the next month's production needs. Assume 161,500 pounds are needed for production in April.*

# Now turn to S9-5

The Bakery by the Bay produces organic bread that is sold by the loaf. Each loaf requires 1/2 of a pound of flour. The bakery pays $2.00 per pound of the organic flour used in its loaves. The bakery expects to produce the following number of loaves in each of the upcoming four months:

| | |
|---|---|
| July | 1,460 loaves |
| August | 1,920 loaves |
| September | 1,760 loaves |
| October | 1,480 loaves |

The bakery has a policy that it will have 10% of the following month's flour needs on hand at the end of each month. At the end of June, there were 100 pounds of flour on hand. Prepare the direct materials budget for the third quarter, with a column for each month and for the quarter.

# S9-5 Direct materials budget

| The Bakery by the Bay<br>Direct Materials Budget<br>For the Months of July through September | | | | |
|---|---|---|---|---|
| | Month | | | |
| | July | August | September | Quarter |
| Units to be produced | 1,460 | 1,920 | 1,760 | 5,140 |
| × Quantity (pounds) of DM needed per unit | 0.50 | 0.50 | 0.50 | 0.50 |
| Quantity (pounds) needed for production | 730 | 960 | 880 | 2,570 |
| Plus: Desired end inventory of DM | 96 | 88 | 74 | 74 |
| Total quantity (pounds) needed | 826 | 1,048 | 954 | 2,644 |
| Less: Beginning inventory of DM | 100 | 96 | 88 | 100 |
| Quantity (pounds) to purchase | 726 | 952 | 866 | 2,544 |
| × Cost per pound | × $2.00 | × $2.00 | × $2.00 | × $2.00 |
| Total cost of DM purchases | $ 1,452 | $ 1,904 | $ 1,732 | $ 5,088 |

# Direct Labor Budget

# Direct Labor Budget (Exhibit 9-8)

| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | **Tucson Tortilla** | | | | |
| 2 | **Direct Labor Budget** | | | | |
| 3 | **For the Quarter Ended March 31** | | | | |
| 4 | | **Month** | | | |
| 5 | | **January** | **February** | **March** | **1st Quarter** |
| 6 | Units to be produced (from production budget) | 29,000 | 20,500 | 25,700 | 75,200 |
| 7 | Multiply by: Direct labor hours per unit | 0.05 | 0.05 | 0.05 | 0.05 |
| 8 | Total hours required | 1,450 | 1,025 | 1,285 | 3,760 |
| 9 | Multiply by: Direct labor cost per hour | $ 22 | $ 22 | $ 22 | $ 22 |
| 10 | Total direct labor cost | $ 31,900 | $ 22,550 | $ 28,270 | $ 82,720 |
| 11 | | | | | |

# Now turn to S9-6

The Production Department of Cameron Manufacturing has prepared the following schedule of units to be produced over the first quarter of the upcoming year:

| | January | February | March |
|---|---|---|---|
| Units to be produced ..... | 560 | 600 | 860 |

Each unit requires 6.0 hours of direct labor. Direct labor workers are paid an average of $16 per hour. How much direct labor will be budgeted in January, February, March, and for the quarter in total?

# S9-6 Direct Labor Budget

| Cameron Manufacturing<br>Direct Labor Budget<br>For the Months of January through March | | | | |
|---|---|---|---|---|
| | Month | | | |
| | January | February | March | Quarter |
| Units to be produced (from production budget) | 560 | 600 | 860 | 2,020 |
| × Direct labor hours per unit | 6.0 | 6.0 | 6.0 | 6.0 |
| Total hours required | 3,360 | 3,600 | 5,160 | 12,120 |
| × Direct labor cost per hour | $16.00 | $16.00 | $16.00 | $16.00 |
| Total Direct labor cost | $53,760 | $57,600 | $82,560 | $193,920 |

# Manufacturing Overhead Budget (Exhibit 9-9)

| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | **Tucson Tortilla** | | | | |
| 2 | **Manufacturing Overhead Budget** | | | | |
| 3 | **For the Quarter Ended March 31** | | | | |
| 4 | | **Month** | | | |
| 5 | | **January** | **February** | **March** | **1st Quarter** |
| 6 | Cases to be produced (from production budget) | 29,000 | 20,500 | 25,700 | 75,200 |
| 7 | **Variable MOH Costs:** | | | | |
| 8 | Indirect materials ($1.25 per case) | $ 36,250 | $ 25,625 | $ 32,125 | $ 94,000 |
| 9 | Indirect labor—variable portion ($0.75 per case) | 21,750 | 15,375 | 19,275 | 56,400 |
| 10 | Utilities—variable portion ($0.50 per case) | 14,500 | 10,250 | 12,850 | 37,600 |
| 11 | Total variable MOH | $ 72,500 | $ 51,250 | $ 64,250 | $ 188,000 |
| 12 | | | | | |
| 13 | **Fixed MOH Costs:** | | | | |
| 14 | Depreciation on factory and production equipment | $ 10,000 | $ 10,000 | $ 10,000 | $ 30,000 |
| 15 | Insurance and property taxes on the factory | 3,000 | 3,000 | 3,000 | 9,000 |
| 16 | Indirect labor—fixed portion | 15,000 | 15,000 | 15,000 | 45,000 |
| 17 | Utilities—fixed portion | 2,000 | 2,000 | 2,000 | 6,000 |
| 18 | Total fixed MOH | $ 30,000 | $ 30,000 | $ 30,000 | $ 90,000 |
| 19 | | | | | |
| 20 | Total manufacturing overhead | $ 102,500 | $ 81,250 | $ 94,250 | $ 278,000 |
| 21 | | | | | |

# Now turn to S9-7
# Manufacturing Overhead Budget

Probe Corporation is preparing its manufacturing overhead budget. The direct labor budget for the upcoming quarter is as follows:

| | April | May | June |
|---|---|---|---|
| Budgeted direct labor hours..... | 490 | 770 | 660 |

The company's variable manufacturing overhead rate is $1.60 per direct labor hour and the company's fixed manufacturing overhead is $3,000 per month. How much manufacturing overhead will be budgeted for April? For May? For June? For the quarter in total?

# S9-7 Manufacturing Overhead Budget

| Probe Corporation<br>Manufacturing Overhead Budget<br>For the Months of April through June | | | | |
|---|---|---|---|---|
| | Month | | | |
| | April | May | June | Quarter |
| **Variable MOH Cost:** | | | | |
| Budgeted direct labor hours | 490 | 770 | 660 | 1,920 |
| Indirect labor—Variable ($1.60 per direct labor hour) | $1.60 | $1.60 | $1.60 | $1.60 |
| Total variable MOH | $ 784 | $1,232 | $1,056 | $ 3,072 |
| **Fixed MOH Costs**: | | | | |
| Total fixed MOH | $ 3,000 | $ 3,000 | $ 3,000 | $ 9,000 |
| **Total manufacturing overhead** | $ 3,784 | $ 4,232 | $ 4,056 | $ 12,072 |

# Operating Expenses Budget (Exhibit 9-10)

| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | **Tucson Tortilla** | | | | |
| 2 | **Operating Expenses Budget** | | | | |
| 3 | **For the Quarter Ended March 31** | | | | |
| 4 | | **Month** | | | |
| 5 | | **January** | **February** | **March** | **1st Quarter** |
| 6 | Number of cases to be sold (from sales budget) | 30,000 | 20,000 | 25,000 | 75,000 |
| 7 | **Variable Operating Expenses:** | | | | |
| 8 | Sales commissions expense ($1.50 per case sold) | $ 45,000 | $ 30,000 | $ 37,500 | $ 112,500 |
| 9 | Shipping expense ($2.00 per case sold) | 60,000 | 40,000 | 50,000 | 150,000 |
| 10 | Bad debt expense (1% of credit sales) | 4,800 | 3,200 | 4,000 | 12,000 |
| 11 | Total variable operating expenses | $ 109,800 | $ 73,200 | $ 91,500 | $ 274,500 |
| 12 | | | | | |
| 13 | **Fixed Operating Expenses:** | | | | |
| 14 | Salaries | $ 20,000 | $ 20,000 | $ 20,000 | $ 60,000 |
| 15 | Office rent | 4,000 | 4,000 | 4,000 | 12,000 |
| 16 | Depreciation | 6,000 | 6,000 | 6,000 | 18,000 |
| 17 | Advertising | 2,000 | 2,000 | 2,000 | 6,000 |
| 18 | Telephone and internet | 1,000 | 1,000 | 1,000 | 3,000 |
| 19 | Total fixed operating expenses | $ 33,000 | $ 33,000 | $ 33,000 | $ 99,000 |
| 20 | | | | | |
| 21 | Total operating expenses | $ 142,800 | $ 106,200 | $ 124,500 | $ 373,500 |
| 22 | | | | | |

# Now turn to S9-8

Davenport Corporation is preparing its operating expenses budget. The budgeted unit sales for the upcoming quarter are as follows:

| | July | August | September |
|---|---|---|---|
| Budgeted unit sales ..... | 1,210 | 1,440 | 1,700 |

The company's variable operating expenses are $6.00 per unit. Fixed monthly operating expenses include $5,100 for salaries, $3,300 for office rent, and $2,200 for depreciation. How much operating expenses will be budgeted for July? For August? For September? For the quarter in total?

# S9-8 Operating Expenses Budget

| Davenport Corporation<br>Operating Expenses Budget<br>For the Months of July through September | | | | |
|---|---|---|---|---|
| | Month | | | |
| | July | August | September | Quarter |
| Sales units (from Sales Budget) | 1,210 | 1,440 | 1,700 | 4,350 |
| Variable Operating Expenses: | | | | |
| Variable operating expenses<br>( $6.00 per unit) | $ 6.00 | $ 6.00 | $ 6.00 | $ 6.00 |
| Variable operating expenses | $ 7,260 | $8,640 | $10,200 | $ 26,100 |
| Fixed Operating Expenses: | | | | |
| Salaries | $ 5,100 | $ 5,100 | $ 5,100 | $ 15,300 |
| Office rent | 3,300 | 3,300 | 3,300 | 9,900 |
| Depreciation | 2,200 | 2,200 | 2,200 | 6,600 |
| Fixed operating expenses | $ 10,600 | $ 10,600 | $ 10,600 | $ 31,800 |
| Total operating expenses | $ 17,860 | $ 19,240 | $ 20,800 | $ 57,900 |

# Budgeted Manufacturing Cost per Unit (Exhibit 9-11)

| | A | B | C |
|---|---|---|---|
| 1 | **Budgeted Manufacturing Costs** | | **Cost per Case** |
| 2 | Direct materials (5 pounds per case × $1.50 per pound) | | $ 7.50 |
| 3 | Direct labor (0.05 hours per case × $22 per hour) | | 1.10 |
| 4 | Variable MOH: | | |
| 5 | Indirect materials ($1.25 per case) | $ 1.25 | |
| 6 | Indirect labor ($0.75 per case) | 0.75 | |
| 7 | Variable utilities ($.50 per case) | 0.50 | |
| 8 | Total variable MOH per case | | 2.50 |
| 9 | Fixed MOH ($30,000 per month × 12 months) | $ 360,000 | |
| 10 | Divided by: Budgeted production volume (cases) | 400,000 | |
| 11 | Total fixed MOH per case | | 0.90 |
| 12 | Cost per case (absorption costing) | | $ 12.00 |
| 13 | | | |

*NOTE: Information taken from the DM, DL, and MOH budgets in Exhibits 9-7 through 9-9.*

# Budgeted Income Statement (Exhibit 9-12)

| | A | B |
|---|---|---|
| 1 | **Tucson Tortilla** | |
| 2 | **Budgeted Income Statement** | |
| 3 | **For the Month Ended January 31** | |
| 4 | | |
| 5 | Sales revenue (30,000 cases × $20 per case, from Exhibit 9-5) | $ 600,000 |
| 6 | Less: Cost of goods sold (30,000 cases × $12.00 per case, from Exhibit 9-11) | 360,000 |
| 7 | Gross profit | 240,000 |
| 8 | Less: Operating expenses (from Exhibit 9-10) | 142,800 |
| 9 | Operating income | $ 97,200 |
| 10 | Less: Interest expense (or add interest income) | 0 |
| 11 | Less: Income tax expense | 34,020 |
| 12 | Net income | $ 63,180 |
| 13 | | |

*NOTE: The corporate income tax rate for most companies is currently 35% of income before tax. Thus, the budgeted income tax is $34,020 (= $97,200 × 35).*

# Now turn to S9-9
# Budgeted Income Statement

Bell Simpson manufactures a specialty precision scale. For January, the company expects to sell 800 scales at an average price of $2,350 per unit. The average manufacturing cost of each unit sold is $1,400. Variable operating expenses for the company will be $1.10 per unit sold and fixed operating expenses are expected to be $7,700 for the month. Monthly interest expense is $3,700. The company has a tax rate of 40% of income before taxes. Prepare Bell Simpson's budgeted income statement for January.

# S9-9 Budgeted Income Statement

| Bell Simpson<br>Budgeted Income Statement<br>For the month ended January 31 | |
|---|---|
| Sales (800 units x $2,350) | $ 1,880,000 |
| Cost of goods sold (800 units x $1,400) | 1,120,000 |
| Gross profit | $ 760,000 |
| Operating expenses (800 units x $1.10) + $7,700 | 8,580 |
| Operating income | $751,420 |
| Less: Interest expense | 3,700 |
| Less: Provision for income tax | 299,088* |
| Net income | $448,632 |

*(751,420 – 3,700) x 40% = 299,088

# Objective 3

Prepare the financial budgets

# Financial Budget Components

- Capital expenditures budget
- Cash collections budget
- Cash payments budget
- Combined cash budget
- Budgeted balance sheet

# Capital Expenditure Budget (Exhibit 9-13)

- Shows the company's plans/intentions to invest in new property, plant, or equipment (capital investments)

| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | Tucson Tortilla | | | | |
| 2 | Capital Expenditures Budget | | | | |
| 3 | For the Quarter Ended March 31 | | | | |
| 4 | | Month | | | |
| 5 | | January | February | March | 1st Quarter |
| 6 | Computers and printers | $ 15,000 | 0 | 0 | 15,000 |
| 7 | Delivery vans | 35,000 | 0 | 0 | 35,000 |
| 8 | Production equipment | 75,000 | 0 | 0 | 75,000 |
| 9 | Total new capital investments | $ 125,000 | 0 | 0 | $ 125,000 |
| 10 | | | | | |

# Cash collections budget

- When do the firm expect to receive the money from the sales?
- Credit sales VS cash sales

# Now turn to S9-10

Emerald Service anticipates the following sales revenue over a five-month period:

| | November | December | January | February | March |
|---|---|---|---|---|---|
| Sales revenue ..... | $16,500 | $10,500 | $15,500 | $12,000 | $14,000 |

The company's sales are 20% cash and 80% credit. Its collection history indicates that credit sales are collected as follows:

| |
|---|
| 30% in the month of the sale |
| 60% in the month after the sale |
| 6% two months after the sale |
| 4% are never collected |

How much cash will be collected in January? In February? In March? For the quarter in total?

# S9-10 Cash Collections Budget

| Emerald Service<br>Cash Collections Budget<br>For the Months of January through March | | | | |
|---|---|---|---|---|
| | Month | | | |
| | January | February | March | 1st Quarter |
| Cash sales (20% of Sales) | $3,100 | $2,400 | $2,800 | $8,300 |
| Collections on Credit Sales: | | | | |
| 30% in the month of the sale | 3,720 | 2,880 | 3,360 | $ 9,960 |
| 60% in the month after the sale | 5,040 | 7,440 | 5,760 | $ 18,240 |
| 6% two months after the sale | 792 | 504 | 744 | $ 2,040 |
| Total cash collections | $ 12,652 | $ 13,224 | $ 12,664 | $ 38,540 |

# Cash Payment Budget

- When will the firm pay for its direct materials, purchases, direct labor costs, manufacturing overhead costs, operating expenses, capital expenditure, and income tax?

# Cash Payment Budget-DM purchase

| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | **Calculating Cash Payments for** | **Month** | | | |
| 2 | **Direct Materials Purchases** | **January** | **February** | **March** | **1st Quarter** |
| 3 | Total cost of DM purchases (from Exhibit 9-7) | $ 211,125 | $ 157,650 | $ 197,700 | $ 566,475 |
| 4 | | | | | |
| 5 | Cash payments for DM purchases (***paid one month after purchase***) | 231,845 | $ 211,125 | $ 157,650 | $ 600,620 |
| 6 | | | | | |

# Cash Payment Budget-DL

| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | | Month | | | |
| 2 | **Calculating Cash Payments for Direct Labor** | **January** | **February** | **March** | **1st Quarter** |
| 3 | Total cost of direct labor (from Exhibit 9-8) | $ 31,900 | $ 22,550 | $ 28,270 | $ 82,720 |
| 4 | | | | | |
| 5 | Cash payments for direct labor (***paid the same month***) | $ 31,900 | $ 22,550 | $ 28,270 | $ 82,720 |
| 6 | | | | | |

# Cash Payment Budget-MOH

- Assume the firm pays all MOH cost except depreciation, insurance and property taxes which is $3,000 per month in the month in which they are incurred.
- $3,000 *12= $36,000 /2= $18,000 payments in January and July

| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | **Calculating Cash Payments for Manufacturing Overhead** | **Month** | | | |
| 2 | | **January** | **February** | **March** | **1st Quarter** |
| 3 | Total manufacturing overhead (from Exhibit 9-9) | $ 102,500 | $ 81,250 | $ 94,250 | $ 278,000 |
| 4 | Less: Depreciation (***not a cash expense***) | 10,000 | 10,000 | 10,000 | 30,000 |
| 5 | Less: Property tax and insurance (***paid twice a year, not monthly***) | 3,000 | 3,000 | 3,000 | 9,000 |
| 6 | Plus: Semiannual ***payments*** for property taxes and insurance | 18,000 | 0 | 0 | 18,000 |
| 7 | Cash payments for manufacturing overhead | $ 107,500 | $ 68,250 | $ 81,250 | $ 257,000 |
| 8 | | | | | |

# Cash Payment Budget-Operating Expense

- Depreciation and bas debt expense are not cash expense

| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | **Calculating Cash Payments for Operating Expenses** | **Month** | | | |
| 2 | | **January** | **February** | **March** | **1st Quarter** |
| 3 | Total operating expenses (from Exhibit 9-10) | $ 142,800 | $ 106,200 | $ 124,500 | $ 373,500 |
| 4 | Less: Depreciation (***not a cash expense***) | 6,000 | 6,000 | 6,000 | 18,000 |
| 5 | Less: Bad debt expense (***not a cash expense***) | 4,800 | 3,200 | 4,000 | 12,000 |
| 6 | Cash Payments for operating expenses | $ 132,000 | $ 97,000 | $ 114,500 | $ 343,500 |
| 7 | | | | | |

# Building a Cash Payments Budget (Exhibit 9-15)

| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | Tucson Tortilla | | | | |
| 2 | Cash Payments Budget | | | | |
| 3 | For the Quarter Ended March 31 | | | | |
| 4 | | Month | | | |
| 5 | | January | February | March | 1st Quarter |
| 6 | Cash payments for direct materials purchases | $ 231,845 | $ 211,125 | $ 157,650 | $ 600,620 |
| 7 | Cash payments for direct labor | 31,900 | 22,550 | 28,270 | 82,720 |
| 8 | Cash payments for manufacturing overhead | 107,500 | 68,250 | 81,250 | 257,000 |
| 9 | Cash payments for operating expenses | 132,000 | 97,000 | 114,500 | 343,500 |
| 10 | Cash payments for capital investments | 125,000 | 0 | 0 | 125,000 |
| 11 | Cash payments for income taxes | 0 | 0 | 0 | 0 |
| 12 | Cash payments for dividends | 25,000 | 0 | 0 | 25,000 |
| 13 | Total cash payments | $ 653,245 | $ 398,925 | $ 381,670 | $ 1,433,840 |
| 14 | | | | | |

# Combined Cash Budget (Exhibit 9-16)

| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | **Tucson Tortilla** | | | | |
| 2 | **Combined Cash Budget** | | | | |
| 3 | **For the Quarter Ended March 31** | | | | |
| 4 | | **Month** | | | |
| 5 | | **January** | **February** | **March** | **1st Quarter** |
| 6 | Beginning cash balance | $ 36,100 | $ 15,055 | $ 153,980 | $ 36,100 |
| 7 | Plus: Cash collections (Exhibit 9-14) | 612,200 | 558,000 | 439,200 | 1,609,400 |
| 8 | Total cash available | 648,300 | 573,055 | 593,180 | 1,645,500 |
| 9 | Less: Cash payments (Exhibit 9-15) | 653,245 | 398,925 | 381,670 | 1,433,840 |
| 10 | Ending cash balance before financing | $ (4,945) | $ 174,130 | $ 211,510 | $ 211,660 |
| 11 | Financing: | | | | |
| 12 | Plus: New borrowings | 20,000 | 0 | 0 | 20,000 |
| 13 | Less: Debt repayments | 0 | 20,000 | 0 | 20,000 |
| 14 | Less: Interest payments | 0 | 150 | 0 | 150 |
| 15 | Ending cash balance | $ 15,055 | $ 153,980 | $ 211,510 | $ 211,510 |
| 16 | | | | | |

$20,000 * 1/12 *9% interest rate = $150

# Budgeted Balance Sheet (Exhibit 9-17)

| | A | B |
|---|---|---|
| 1 | **Tucson Tortilla** | |
| 2 | **Budgeted Balance Sheet** | |
| 3 | **January 31** | |
| 4 | **Assets:** | |
| 5 | Cash, from cash budget | $ 15,055 |
| 6 | Accounts receivable, net of allowance[A] | 549,450 |
| 7 | Raw materials inventory, from DM budget (10,250 pounds × $1.50 per pound) | 15,375 |
| 8 | Finished goods inventory, from production budget (2,000 cases × $12.00 per case) | 24,000 |
| 9 | Prepaid property taxes and insurance[B] | 15,000 |
| 10 | Total current assets | 618,880 |
| 11 | Property, plant, and equipment,[C] net of $1,920,000 of accumulated depreciation[D] | 4,430,000 |
| 12 | Total assets | $ 5,048,880 |
| 13 | | |
| 14 | **Liabilities and Stockholders' Equity:** | |
| 15 | Accounts payable[E] | $ 211,125 |
| 16 | Income tax liability, from Income Statement Budget | 34,020 |
| 17 | Other current liabilities (line of credit, from combined cash budget) | 20,000 |
| 18 | Total current liabilities | 265,145 |
| 19 | Stockholders' equity[F] | 4,783,735 |
| 20 | Total liabilities and stockholders' equity | $ 5,048,880 |
| 21 | | |

# Sensitivity Analysis

A *what if* technique that asks *what* a result will be *if* a predicted amount is not achieved or *if* an underlying assumption changes

# Objective 4

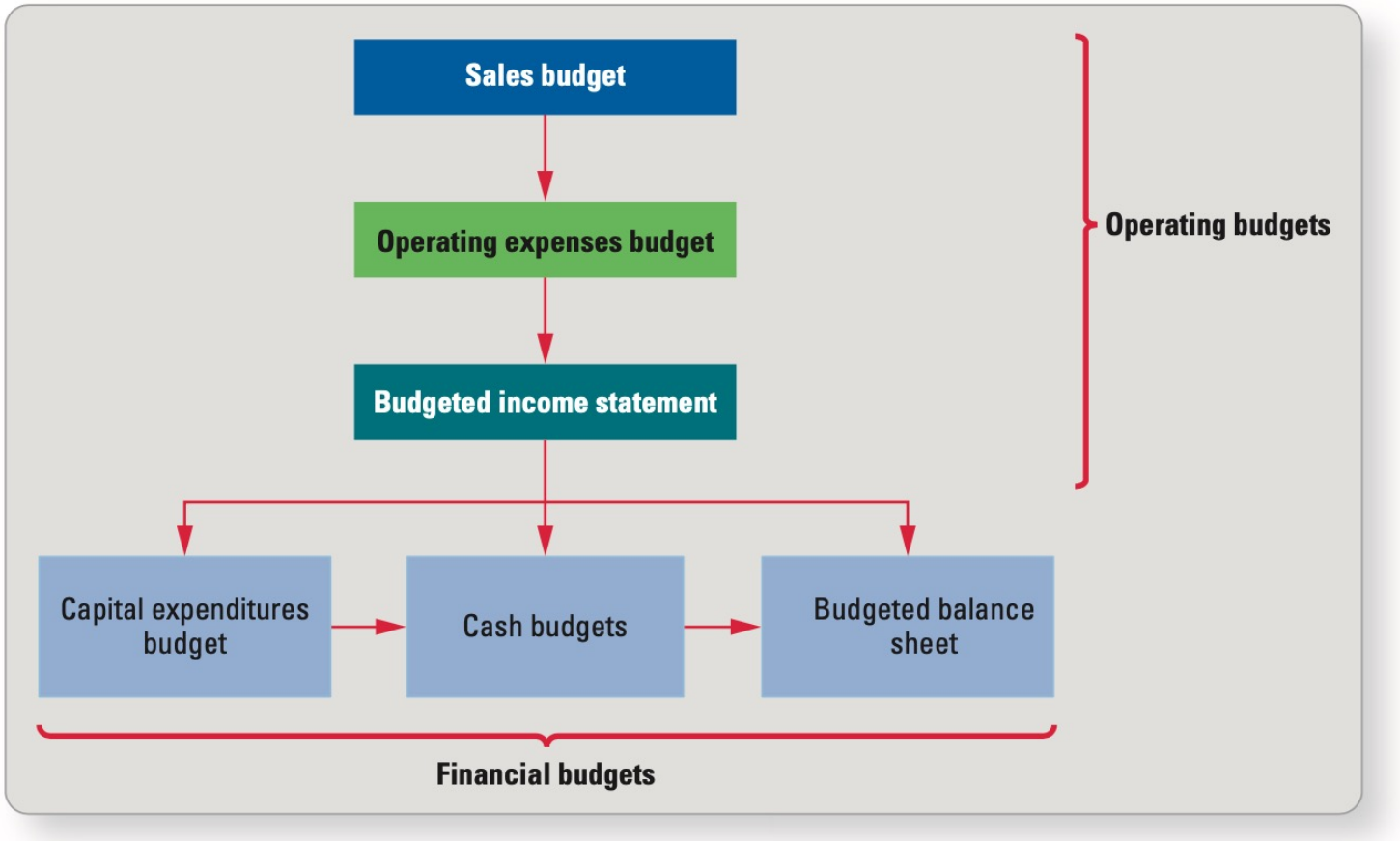
Prepare budgets for a merchandiser

# Service Companies

- No merchandise inventory
- Operating budgets
  - Sales budget
  - Operating expenses budget
  - Budgeted income statement
  - Financial budgets **are the same**

# Service Companies

**EXHIBIT 9-19** Master Budget for a Service Company



# Merchandising Companies

- Merchandising companies include:
  - Sales budget
  - Cost of goods sold, inventory, and purchases budget
  - Operating expenses budget
  - Budgeted income statement
  - The financial **budgets are the same**

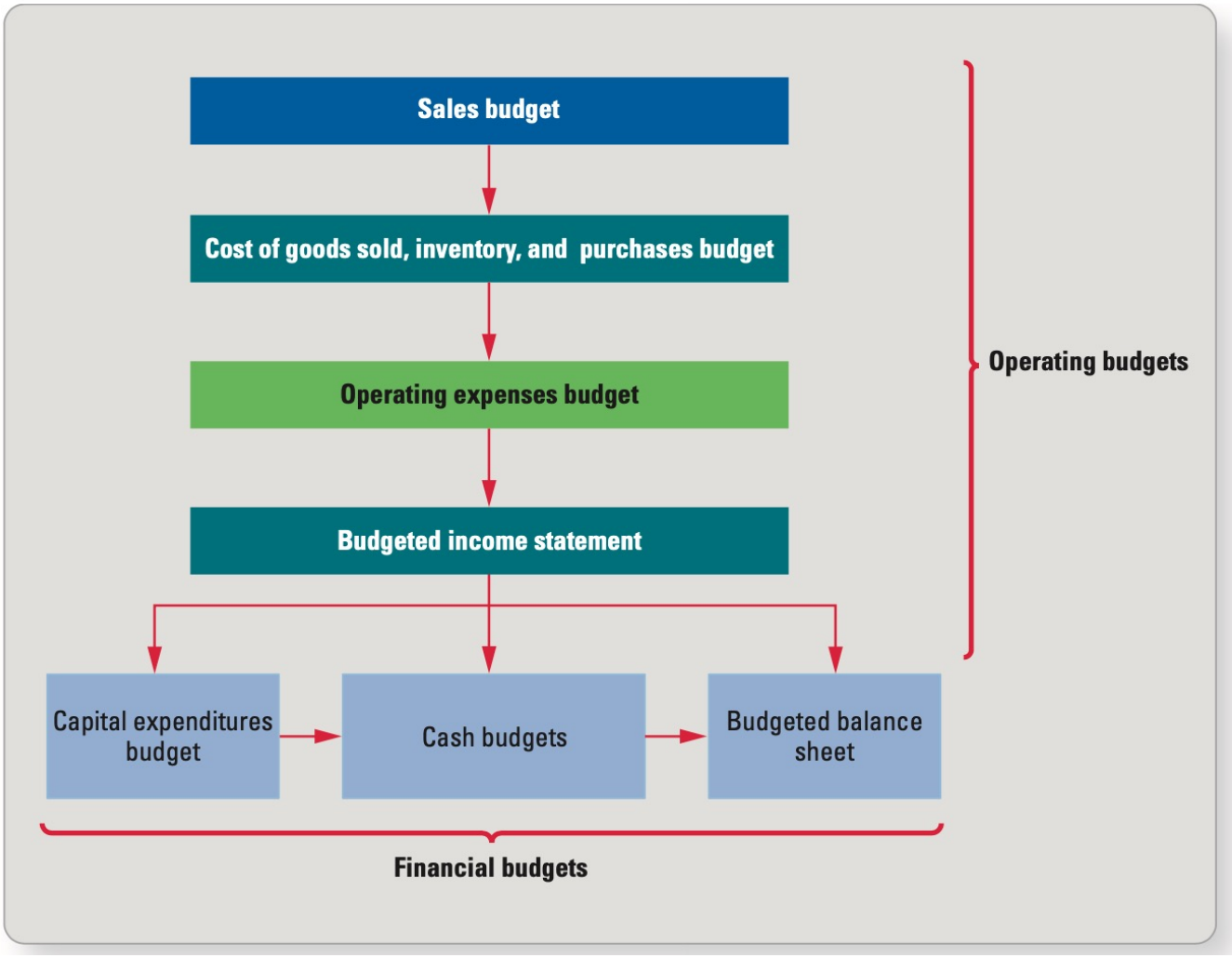
# Merchandising Companies

- Cost of goods sold, inventory and purchases budget:

| | |
|---|---|
| Cost of Goods Sold | (the inventory we plan to sell during the month, at cost) |
| Plus: Desired Ending Inventory | (the amount of inventory we want on hand at month's end) |
| Total Inventory Needed | (the total amount of inventory needed) |
| Less: Beginning Inventory | (the amount of inventory we have on hand) |
| Purchases of Inventory | (the amount of inventory we need to purchase) |

# Merchandising Companies

**EXHIBIT 9-20** Master Budget for a Merchandising Company



# Merchandiser's Cost of Goods Sold, Inventory, and Purchases Budget (Exhibit 9-21)

- Assume: profit margin is 40%; ending inventory equal to 10% of next month's Cost of Goods Sold.

**EXHIBIT 9-21** Merchandiser's Cost of Goods Sold, Inventory, and Purchases Budget

$500,000*60%

| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | Circle J Convenience Stores | | | | |
| 2 | Cost of Goods Sold, Inventory, and Purchases Budget | | | | |
| 3 | For the Quarter Ended March 31 | | | | |
| 4 | | Month | | | |
| 5 | | January | February | March | 1st Quarter |
| 6 | Budgeted sales revenue | $ 500,000 | $ 520,000 | $ 530,000 | $ 1,550,000 |
| 7 | | | | | |
| 8 | Cost of goods sold | $ 300,000 | $ 312,000 | $ 318,000 | $ 930,000 |
| 9 | Plus: Desired end inventory | 31,200 | 31,800 | 33,000 | 33,000 |
| 10 | Total inventory required | 331,200 | 343,800 | 351,000 | 963,000 |
| 11 | Less: Beginning inventory | 30,000 | 31,200 | 31,800 | 30,000 |
| 12 | Amount of inventory to purchase | $ 301,200 | $ 312,600 | $ 319,200 | $ 933,000 |
| 13 | | | | | |

×10%

×10%

# Impact of Credit and Debit Card Sales on Budgeting

- Implications:
  - Credit card companies and their issuing banks charge merchants a transaction fee for each purchase made using plastic
  - Merchant receives entire amount of purchase *less* transaction fee
- Benefits:
  - Lost sales if didn't allow customers to use credit or debit cards
  - Decreases the cost associated with bounced checks, misappropriation of cash, and the activities associated with preparing and transporting cash deposits
  - Receive cash quickly, improves cash flow

# Example

•A customer purchases clothes for $50 and uses a MasterCard to pay for the purchase. MasterCard charges a transaction fee equal to $0.25 + 2% of the amount charged.

$$\text{Transaction Fee} = \$0.25 + (2\% \times \text{Amount Charged})$$
$$\$1.25 = \$0.25 + (2\% \times \$50)$$

$$\text{Cash Deposited} = \text{Amount Charged on Credit Card} - \text{Transaction Fee}$$
$$\$48.75 = \$50.00 - \$1.25$$

•When preparing the master budget, merchants need to consider:

- The percentage of sales that will be made using debit and credit cards.
- The different transaction fees charged for debit and credit card transactions.
- The length of time between the sale and the deposit.

# Store Credit Cards

- **No transaction fee incurred**
  - **Merchant assumes risk of collection**
- **Must wait for customers to make payments**
  - **Months, years, never**
- **Cash collections budget—Aging of receivables**
- **Operating Expense Budget—Bad debts**
- **Budget interest income and late fees**

# End of Chapter 9