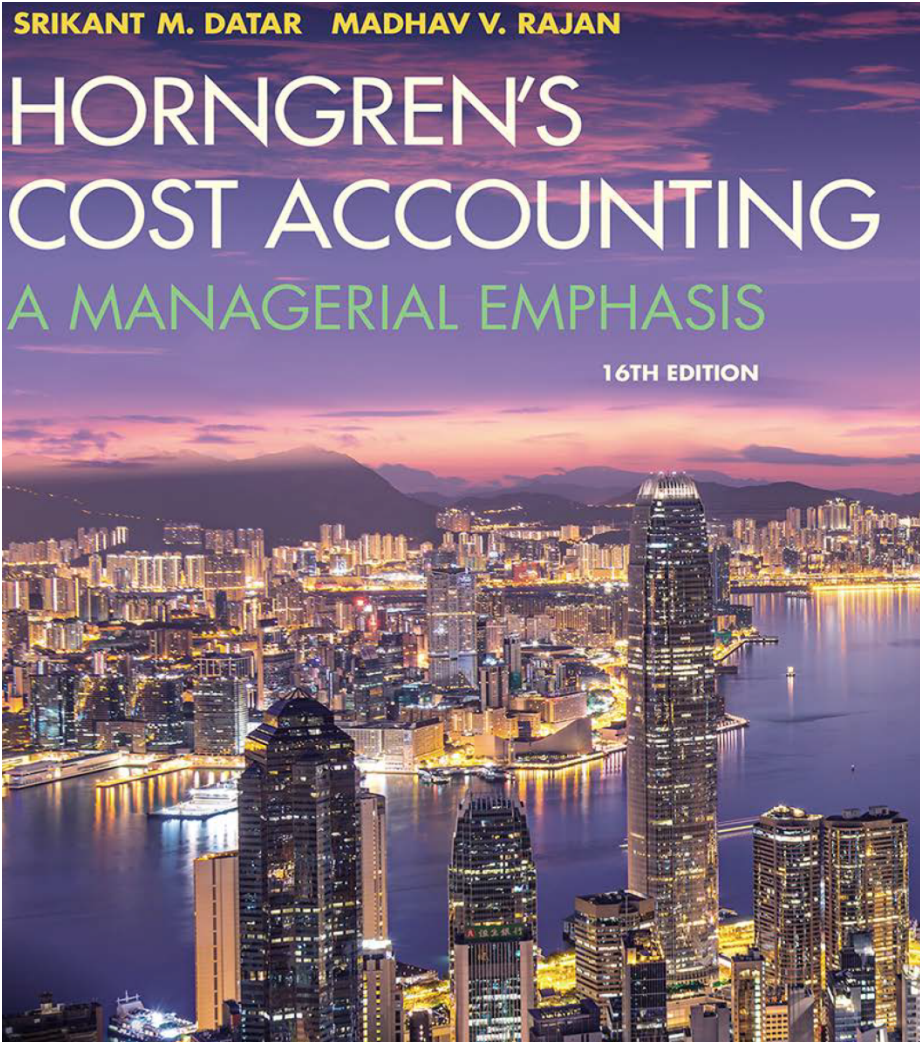


# COST ACCOUNTING

Sixteenth Edition



## Chapter 8

Flexible Budgets,  
Overhead Cost Variances,  
and  
Management Control

# Planning of Variable and Fixed Overhead Costs

- To effectively plan variable overhead costs for a product or service, managers must focus on the activities that create a superior product or service for their customers and eliminate activities that do not add value.
- Planning fixed overhead costs is similar to planning variable overhead costs—undertake only essential activities and then plan to be efficient in that undertaking. But there is an additional strategic issue when it comes to planning fixed overhead costs: choosing the appropriate level of capacity or investment that will benefit the company in the long run.

# Standard Costing

## ...is a costing system that:

- Traces direct costs to output produced by multiplying the standard prices or rate by the standard quantities of inputs *allowed* for actual outputs produced.
- Allocates overhead costs on the basis of the standard overhead cost rates times the standard quantities of the allocation bases *allowed* for the actual outputs produced.

# Developing Budgeted Variable Overhead Cost Rates

1. Choose the period to be used for the budget.
2. Select the cost-allocation bases to use in allocating the variable overhead costs to the output produced.
3. Identify the variable overhead costs associated with each cost-allocation base.
4. Compute the rate per unit of each cost-allocation base used to allocate to variable overhead costs to the output produced.

# Developing Budgeted Fixed Overhead Cost Rates-intro

Fixed overhead costs are, by definition, a lump sum of costs that remain unchanged for a given period despite wide changes in activity within the relevant range.

These costs are fixed in the sense that, unlike variable costs, fixed costs do not automatically increase or decrease with the level of activity within the relevant range.

# Developing Budgeted Fixed Overhead Cost Rates

1. Choose the period to use for the budget.
2. Select the cost-allocation base (or bases) to use in allocating the fixed overhead costs to the output produced.
3. Identify the fixed overhead costs associated with each cost-allocation base.
4. Compute the rate per unit of each cost-allocation base used to allocate fixed overhead costs to the output produced.

# Variable Overhead Cost Variances— Flexible Budget Analysis

Variable overhead flexible-budget variance measures the difference between actual variable overhead costs incurred and flexible-budget variable overhead amounts.

$$\text{VARIABLE OVERHEAD FLEXIBLE BUDGET VARIANCE} = \\ \text{Actual Costs Incurred} - \text{Flexible-budget amount}$$

This variance can be further broken down into the:

Variable Overhead Efficiency Variance and the  
Variable Overhead Spending Variance

# Variable Overhead Cost Variances— Efficiency Variance

Variable overhead efficiency variance is the difference between the actual quantity of the cost-allocation base used and budgeted quantity of the cost-allocation base that should have been used to produce the actual output, multiplied by the budgeted variable overhead cost per unit of the cost-allocation base.

VARIABLE OVERHEAD EFFICIENCY VARIANCE =

{Actual quantity of variable overhead cost-allocation base used for actual output –

Budgeted quantity of variable overhead cost-allocation base allowed for actual output} X

Budgeted variable overhead cost per unit of cost-allocation base



# Variable Overhead Cost Variances— Spending Variance

Variable overhead spending variance is the difference between the actual variable overhead cost per unit of the cost-allocation base and the budgeted variable overhead cost per unit of the cost-allocation base, multiplied by the actual quantity of variable overhead cost-allocation base used.

VARIABLE OVERHEAD SPENDING VARIANCE =

{Actual variable overhead cost per unit of cost-allocation base –  
Budgeted variable overhead cost per unit of cost-allocation base}  
X

Actual quantity of variable overhead cost-allocation base used

# Journal Entries for Variable Overhead Costs and Variances (1 of 2)

Here are the journal entries for the Variable Overhead accounts:

1) Variable Overhead Control           XX  
    Accounts Payable & Other accounts       XX

To record actual variable cost incurred

2) Work-in-Process Control XX  
    Variable Overhead Allocated               XX

To record variable overhead costs allocated (absorbed)

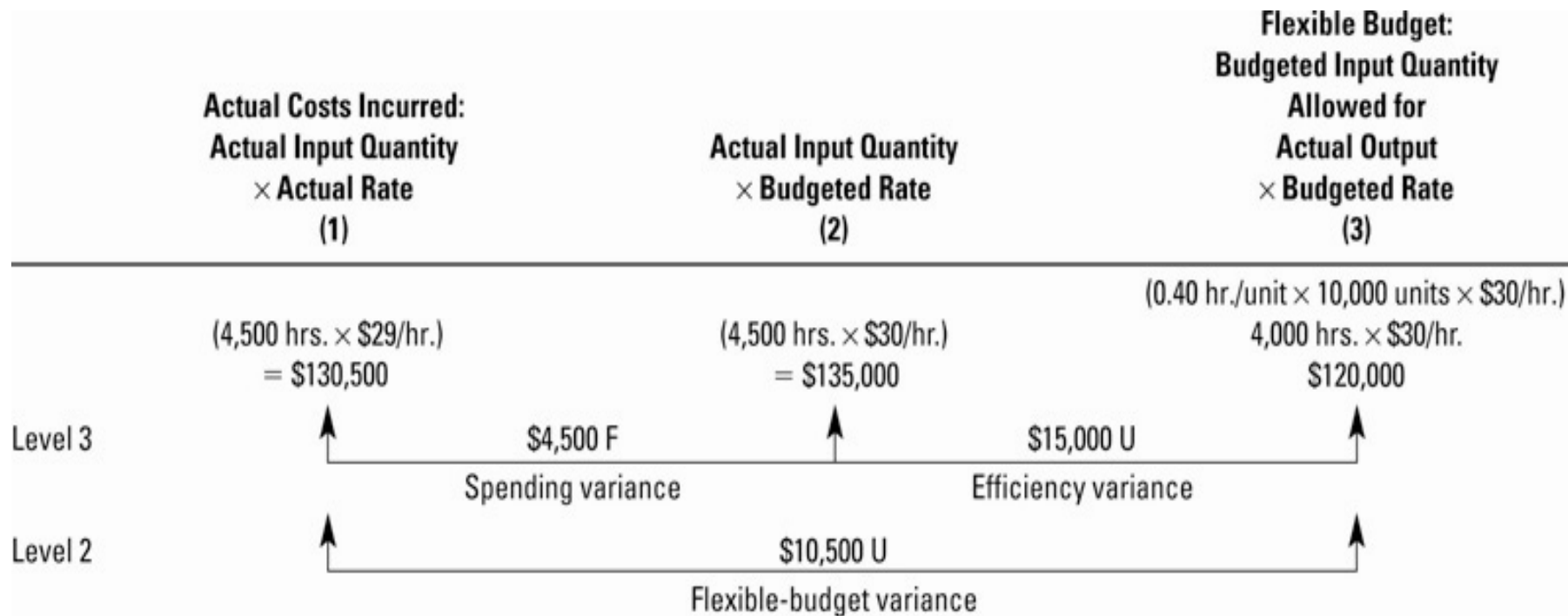
# Journal Entries for Variable Overhead Costs and Variances (2 of 2)

Here are the journal entries for the Variable Overhead accounts:

3) Variable Overhead Allocated	XX	
Variable Overhead Efficiency Variance	XX	
Variable Overhead Control	XX	
Variable Overhead Spending Variance		XX

To record variances for the accounting period.

# Variable Overhead Variance Analysis Illustrated



<sup>a</sup>F = favorable effect on operating income; U = unfavorable effect on operating income.

# Fixed Overhead Cost Variances— Fixed Overhead Flexible-Budget Variance and Fixed Overhead Spending Variance

Fixed overhead flexible-budget variance is the difference between actual fixed overhead costs and fixed overhead costs in the flexible budget.

The fixed overhead spending variance is the same variance as the Fixed Overhead Flexible-Budget Variance.

The formula is:  $\text{Actual Costs Incurred} - \text{Flexible Budget Amount}$

# Fixed Overhead Cost Variances— Production-Volume Variance

The production-volume variance arises only for fixed costs. It is the difference between the budgeted fixed overhead and the fixed overhead allocated on the basis of actual output produced.

This variance is also known as the denominator-level variance.

The formula is:

Budgeted Fixed Overhead – Fixed Overhead allocated for actual output units produced

# Interpreting the Production—Volume Variance

- Interpretation of this variance is difficult due to the nature of the costs involved and how they are budgeted.
- Fixed costs are by definition somewhat inflexible. While market conditions may cause production to flex up or down, the associated fixed costs remain the same.
- Fixed costs may be set years in advance, and may be difficult to change quickly.
- *Contradiction*: Despite this, examination of the fixed overhead budget formulae reveals that it is budgeted similar to a *variable* cost.

# Journal Entries for Fixed Overhead Costs and Variances (1 of 2)

Here are the journal entries for the Fixed Overhead accounts:

1) Fixed Overhead Control	XX	
Salaries Payable, Accum Depr, etc.		XX

To record actual fixed overhead costs incurred

2) Work-in-Process Control	XX	
Fixed Overhead Allocated		XX

To record fixed overhead costs allocated



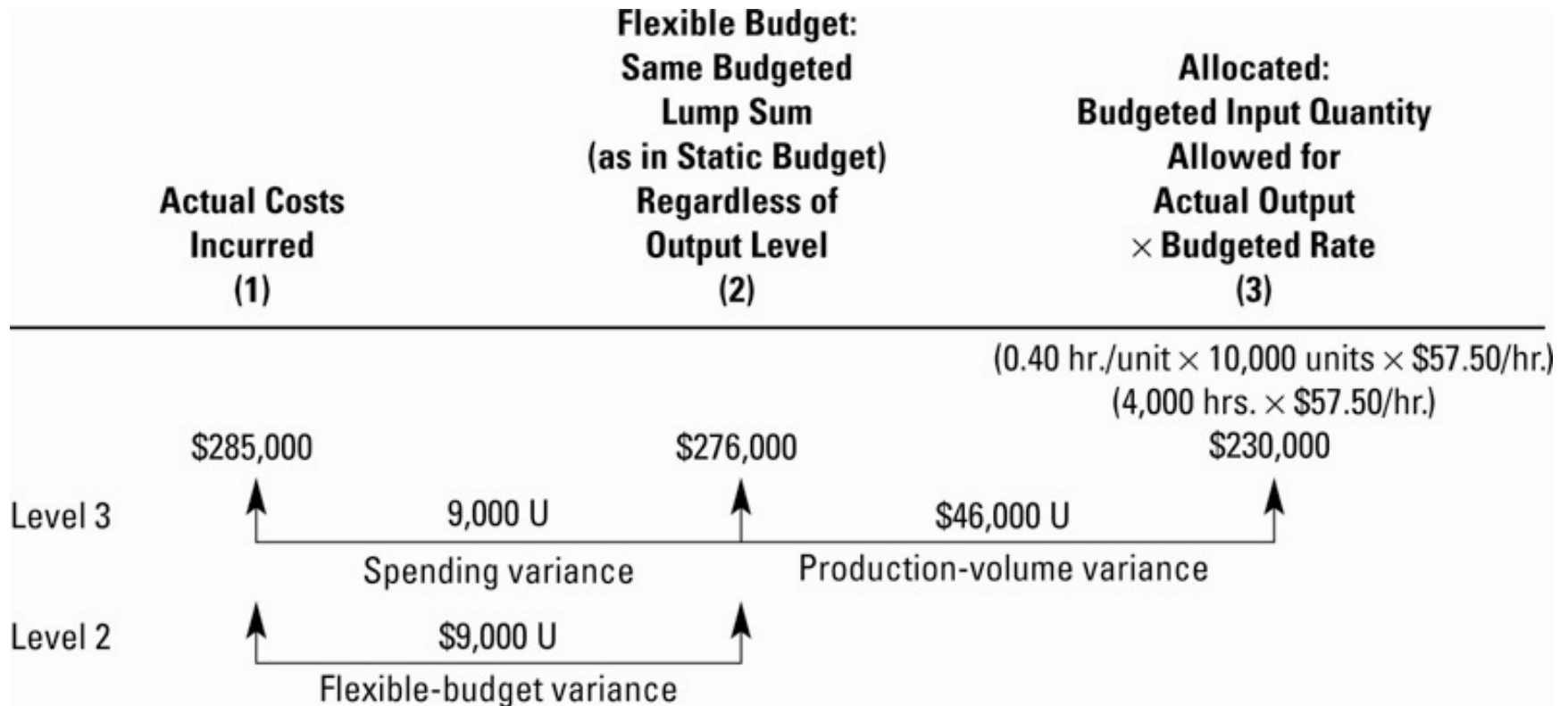
# Journal Entries for Fixed Overhead Costs and Variances (2 of 2)

Here are the journal entries for the Variable Overhead accounts:

3) Fixed Overhead Allocated	XX	
Fixed Overhead Spending Variance	XX	
Fixed Overhead Production-Volume Var.	XX	
Fixed Overhead Control		XX

To record variances for the accounting period.

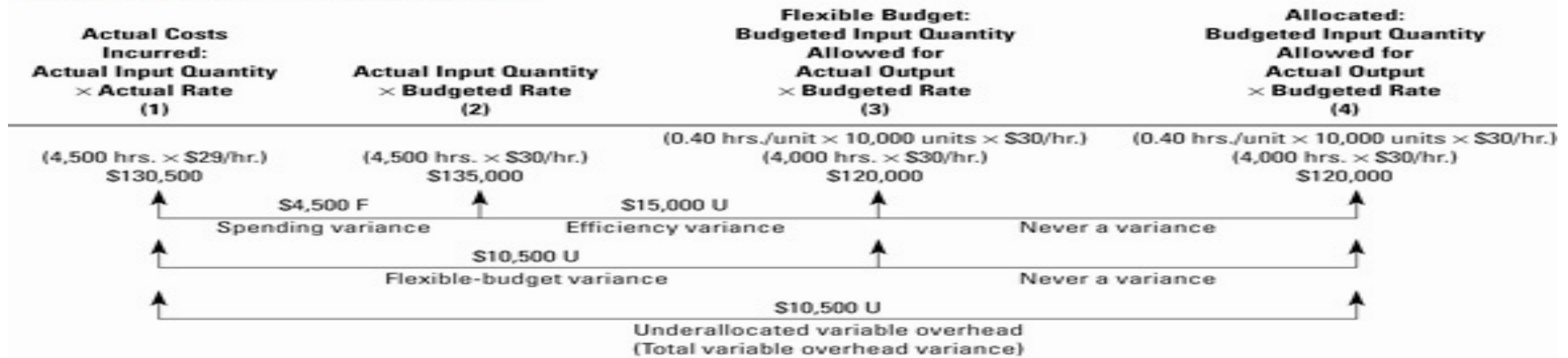
# Fixed Overhead Variance Analysis, Illustrated



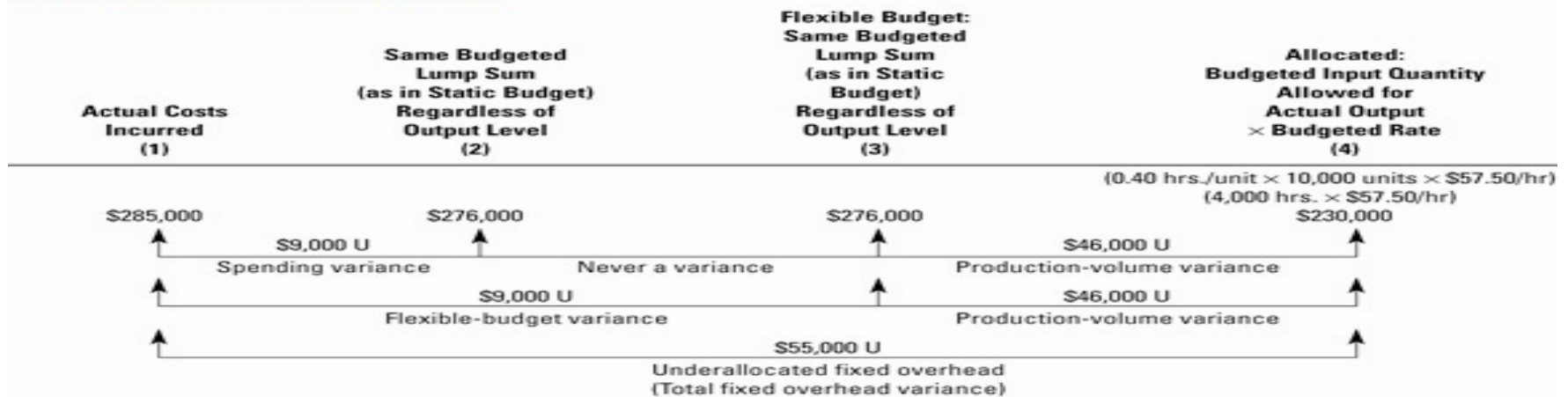
<sup>a</sup>F = favorable effect on operating income; U = unfavorable effect on operating income.

# Integrated Variance Analysis, Illustrated

**PANEL A: Variable (Manufacturing) Overhead**



**PANEL B: Fixed (Manufacturing) Overhead**



\*F = favorable effect on operating income; U = unfavorable effect on operating income.

# 4-Variance Analysis

<b>4-VARIANCE ANALYSIS</b>	<b>SPENDING VARIANCE</b>	<b>EFFICIENCY VARIANCE</b>	<b>PRODUCTION-VOLUME VARIANCE</b>
VARIABLE OVERHEAD	YES	YES	NEVER A VARIANCE
FIXED OVERHEAD	YES	NEVER A VARIANCE	YES

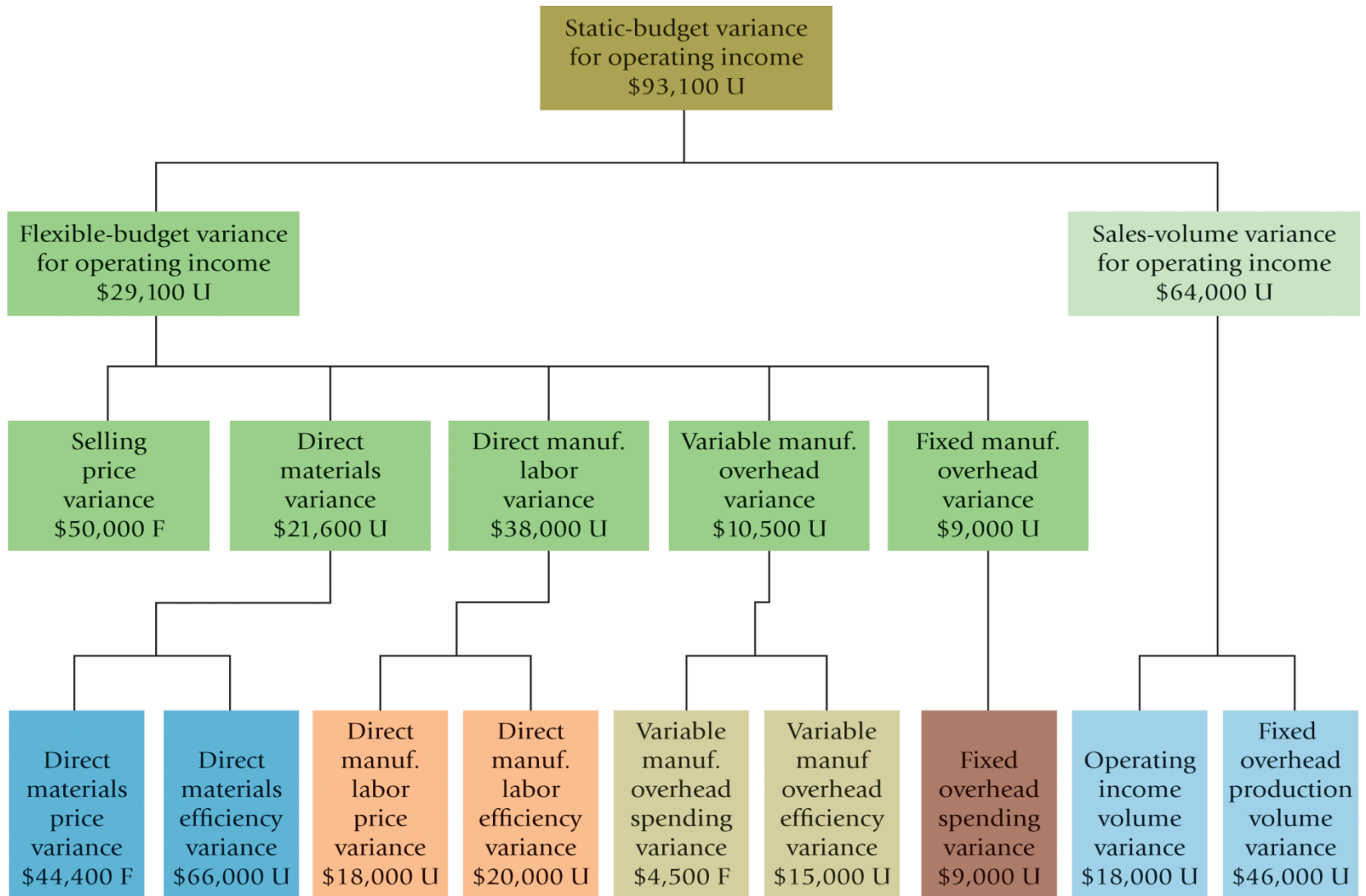
# Production-Volume Variance and Sales-Volume Variance

You may recall from Chapter 7 that the static budget variance (the difference between the static budget and the actual results) was \$93,100 Unfavorable for Webb Company, our sample company.

The sales-volume variance (the difference between the flexible budget and the static budget) was \$64,000 Unfavorable.

The sales-volume variance consists of two components: The operating-income volume variance and the production-volume variance.

# Summary of Variance Analysis



# Variance Analysis and Activity— Based Costing

- Activity-based costing systems focus on individual activities as the fundamental cost objects.
- Variances are calculated for each activity.
- Here is an example of the variance analysis for one activity at Lyco Brass works

EXHIBIT 8.6 Columnar Presentation of Variance Analysis for Direct Materials-Handling Labor Costs: Lyco Brass Works for 2017<sup>a</sup>

	<b>Actual Costs Incurred: Actual Input Quantity × Actual Rate (1)</b>	<b>Actual Input Quantity × Budgeted Rate (2)</b>	<b>Flexible Budget: Budgeted Input Quantity Allowed for Actual Output × Budgeted Rate (3)</b>
	(5,670 hours × \$14.50 per hour) \$82,215	(5,670 hours × \$14 per hour) \$79,380	(5,040 hours × \$14 per hour) \$70,560
Level 3	↑	↑	↑
		\$2,835 U	\$8,820 U
Level 2	↑	↑	↑
		Price variance	Efficiency variance
		\$11,655 U	
		Flexible-budget variance	

<sup>a</sup>F = favorable effect on operating income; U = unfavorable effect on operating income.

# Overhead Variances in Nonmanufacturing Settings

- Nonmanufacturing companies can benefit from overhead variances just as manufacturing companies can.
- Variance analysis can be used to examine overhead costs and make decisions about pricing, managing costs, and the mix of products.
- Output measures will be different and can be passenger-miles flown, patient days provided, rooms-days occupied, ton-miles of freight hauled, etc.



# Financial and Nonfinancial Performance Measures

The overhead variances discussed in this chapter are examples of financial performance measures. Nonfinancial measures such as those related to capacity utilization and physical measures of input usage also provide useful information.

Both financial and nonfinancial performance measures are used to evaluate the performance of managers.