

# Flexible Budgets and Standard Costs

Chapter 22

# Learning Objective 1

Prepare a flexible budget for the income statement

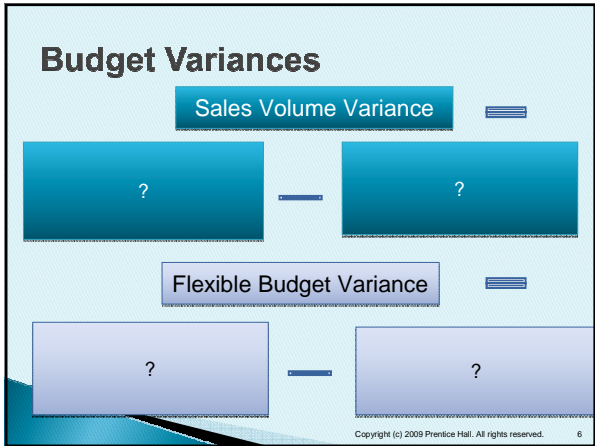
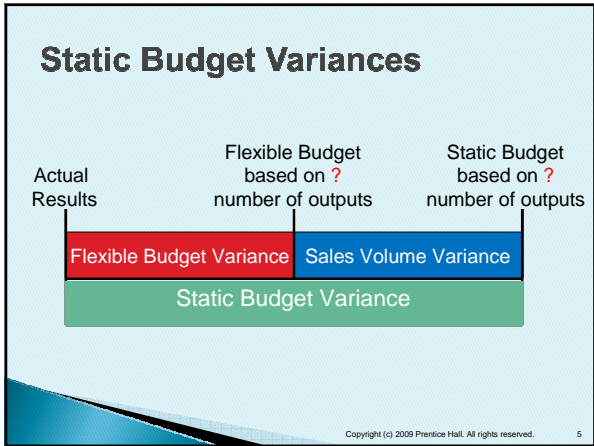
## Static vs. Flexible Budgets

Static Budget	Flexible Budget
<ul style="list-style-type: none"> <li>Prepared for only one level of sales volume</li> </ul>	<ul style="list-style-type: none"> <li>Prepared for several different volume levels within a relevant range</li> </ul>

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# Learning Objective 2

Prepare an income statement performance report



## Exercise 22-16

White Pro Company Income Statement Performance Year Ended July 31, 2011						
	Actual Results at Actual Prices	Flexible Budget Variance	Flexible Budget for Actual # of Output Units	Sales Volume Variance		Static Budget
Output units	41,000	-	41,000	7,000	F	34,000
Sales revenue	\$ 215,000	\$ -	\$ 215,000	\$ 19,000	F	\$ 196,000
Variable costs	85,000	6,000 U	79,000	9,000 U		70,000
Fixed costs	107,000	6,000 U	101,000	-		101,000
Total costs	192,000	12,000 U	180,000	9,000 U		171,000
Operating income	\$ 23,000	\$ 12,000 U	\$ 35,000	\$ 10,000	F	\$ 25,000

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## Learning Objective 3

Identify the benefits of standard costs and learn how to set standards

## Standard Costs

- ▶ Budget for a single unit
- ▶ Each unit has standards for:

Quantity

Price

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## Price Standards

Direct materials

Direct labor

Manufacturing overhead

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## Quantity Standards

Direct materials

Direct labor

Manufacturing overhead

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## Summary of Standard Setting Issues

	Price Standard	Quantity Standard
Direct Materials	Responsibility: Production managers Factors: Purchase price, discounts, delivery, credit policy	Responsibility: Production managers & engineers Factors: Product specifications, spoilage, production scheduling
Direct Labor	Responsibility: Human resource managers Factors: Wage rate, payroll taxes, fringe benefits	Responsibility: Production managers & engineers Factors: Time requirements
Manufacturing Overhead	Responsibility: Production managers Factors: Nature and amount of resources needed for support activities	

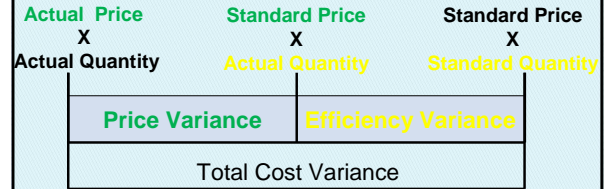
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## Benefits of Standard Costs

Helps managers:

- ▶ In budget preparation
- ▶ Target levels of performance
- ▶ Identify performance standards
- ▶ Set sales prices
- ▶ Decrease accounting costs

## Variations



## Price Variance

- ▶ Measures how well the business keeps unit costs within standards

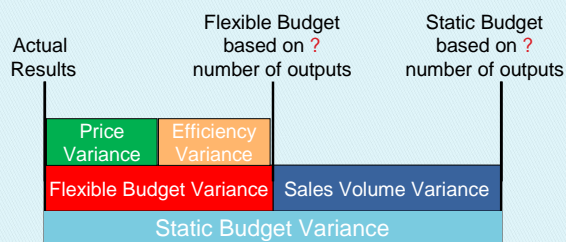
$$\begin{array}{c}
 \boxed{\text{(Actual Price x Actual Quantity)}} = \boxed{\text{(Standard Price x Actual Quantity)}} \\
 \text{OR} \\
 \boxed{\text{(Actual Price - Standard Price)}} \otimes \boxed{\text{Actual Quantity}} \\
 \text{(AP - SP) x AQ}
 \end{array}$$

## Efficiency (Quantity) Variance

- ▶ Measures how well the business keeps unit costs within standards

$$\begin{array}{c}
 \boxed{\text{(Standard Price x Actual Quantity)}} = \boxed{\text{(Standard Price x Standard Quantity)}} \\
 \text{OR} \\
 \boxed{\text{(Actual Quantity - Standard Quantity)}} \otimes \boxed{\text{Standard Price}} \\
 \text{(AQ - SQ) x SP}
 \end{array}$$

## Variations



## Learning Objective 4

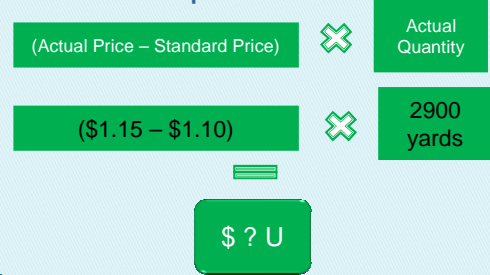
Compute standard cost variances for direct materials and direct labor

## Computing Variances

- ▶ Gather necessary data:
  - Identify fixed and variable costs
  - Compare actual results with flexible budget
  - Prepare flexible budget based on standard costs
  - Compute actual quantities and prices of materials and labor

## Exercise 22-18

### Direct materials price variance

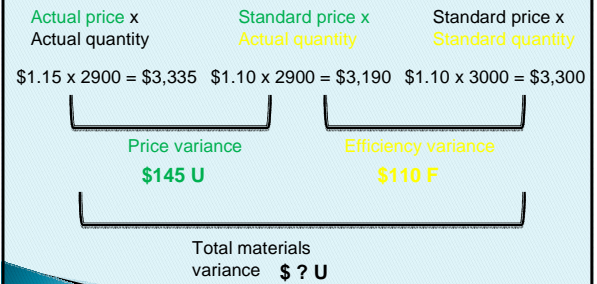


## Exercise 22-18 (continued)

### Direct materials efficiency variance

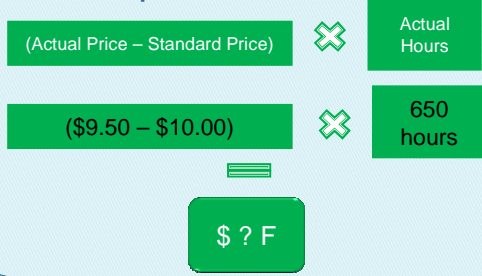


## Exercise 22-18 (continued)



## Exercise 22-18 (continued)

### Direct labor price variance



## Exercise 22-18 (continued)

### Direct labor efficiency variance



## Exercise 22-18 (continued)

Actual price x Actual hours	Standard price x Actual hours	Standard price x Standard hours
$\$9.50 \times 650 = \$6,175$	$\$10.00 \times 650 = \$6,500$	$\$10.00 \times 1000 = \$10,000$
<div style="border-top: 1px solid black; width: 100%;"></div> Price variance <b>\$325 F</b>		<div style="border-top: 1px solid black; width: 100%;"></div> Efficiency variance <b>\$3,500 F</b>
<div style="border-top: 1px solid black; width: 100%;"></div> Total labor variance <b>\$ ? U</b>		

## Learning Objective 5

Analyze manufacturing overhead in a standard cost system

## Total Overhead Variance

Actual overhead cost

minus

?

## Allocating Overhead in a Standard Cost System

Overhead allocated to production

Standard  
(predetermined)  
overhead rate

×

?

## Overhead Flexible Budget Variance

- Shows how well managers controlled overhead costs

Actual overhead costs

—

Flexible budget overhead for actual output

## Overhead Production Volume Variance

- Occurs when actual production differs from expected production

Flexible budget overhead for actual output

—

Standard overhead allocated to actual production

## Learning Objective 6

Record transactions at standard cost and prepare a standard cost income statement

## Standard Cost Accounting Systems

- ▶ Materials inventory and Manufacturing wages are recorded at standard prices
- ▶ Unfavorable variances are recorded as debits; favorable variances are recorded as credits
- ▶ Work in process inventory is recorded at standard quantities and standard prices

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## Standard Cost Entries: Direct materials price variance

GENERAL JOURNAL				
DATE	DESCRIPTION	REF	DEBIT	CREDIT
	Materials inventory		(@ standard price)	
	Direct materials price variance		(if U-debit, if F-credit)	
	Accounts payable		(@ actual price)	
	<i>To record purchase of direct materials</i>			

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## Standard Cost Entries: Direct materials efficiency variance

GENERAL JOURNAL				
DATE	DESCRIPTION	REF	DEBIT	CREDIT
	Work in process inventory		(@ standard price & quantity)	
	Direct materials efficiency variance		(if U-debit, if F-credit)	
	Materials inventory		(@ standard price & actual quantity)	
	<i>To record use of direct materials</i>			

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## Standard Cost Entries: Direct labor price(rate) variance

GENERAL JOURNAL				
DATE	DESCRIPTION	REF	DEBIT	CREDIT
	Manufacturing wages		(@ standard rate)	
	Direct labor price(rate) variance		(if U-debit, if F-credit)	
	Wages payable		(@ actual rate)	
	<i>To record labor costs</i>			

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## Standard Cost Entries: Direct labor efficiency variance

GENERAL JOURNAL				
DATE	DESCRIPTION	REF	DEBIT	CREDIT
	Work in process inventory		(@ standard rate & hours)	
	Direct labor efficiency variance		(if U-debit, if F-credit)	
	Manufacturing wages		(@ standard rate & actual hours)	
	<i>To allocate direct labor to production</i>			

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## Standard Cost Entries: Actual and allocated overhead

GENERAL JOURNAL				
DATE	DESCRIPTION	REF	DEBIT	CREDIT
	Manufacturing overhead (actual costs incurred)			
	Various accounts			
	<i>To record actual overhead costs incurred</i>			
	Work in process inventory (standard OH rate x standard allocation base)			
	Manufacturing overhead			
	<i>To allocate overhead costs to production</i>			

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## Standard Cost Entries: Completing production and COGS

GENERAL JOURNAL				
DATE	DESCRIPTION	REF	DEBIT	CREDIT
	Finished goods inventory			
	Work in process inventory			
	<i>To record completion of goods at standard cost</i>			
	Cost of goods sold			
	Finished goods inventory			
	<i>To record the cost of goods sold at standard cost</i>			

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## Standard Cost Entries

GENERAL JOURNAL				
DATE	DESCRIPTION	REF	DEBIT	CREDIT
	Overhead flexible budget variance			
	Overhead production volume variance			
	Manufacturing overhead			
	<i>To record overhead variances and close out the Manufacturing overhead account</i>			

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Any Company Standard Cost Income Statement Year Ended July 31, 2011			
Sales revenue at standard			\$\$\$,###
Sales revenue variance			\$,###
Sales revenue at actual			\$\$\$,###
Cost of goods sold at standard cost		\$\$,###	
Manufacturing cost variances			
Direct materials price variance	\$,###		
Direct materials efficiency variance	(\$,###)		
Direct labor price(rate) variance	\$,###		
Direct labor efficiency variance	\$,###		
Overhead flexible budget variance	(\$,###)		
Overhead production volume variance	\$,###	\$,###	
Cost of goods sold at actual cost			\$\$,###
Gross profit			\$\$,###
Marketing and administrative expenses			\$\$,###
Operating income			\$,###

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End of Chapter 22