




C O S T ACCOUNTING

13TH EDITION

Carter • Usry





C O S T ACCOUNTING

13TH EDITION

William K. Carter
University of Virginia

Milton F. Usry
University of West Florida

2002

DAME

THOMSON LEARNING

Australia • Canada • Mexico • Singapore • Spain • United Kingdom • United States

Cost Accounting—13th Edition, by William K. Carter and Milton F. Ustry

Artist: Jan Tiefel and Pam Porter

Desktop Publishing: Jan Tiefel

Cover Design: Andrea P. Leggett

Cover Photos: © Corel Professional Photos. Images may have been combined and/or modified to produce final cover art.

Printer: Sheridan Books

COPYRIGHT ©2002 by Dame, a division of Thomson Learning. The Thomson Learning logo is a registered trademark used herein under license.

All Rights Reserved. No part of this work covered by the copyright hereon may be reproduced or used in any form or by any means—graphic, electronic, or mechanical, including photocopying, recording, taping, or information storage and retrieval systems—without the written permission of the publisher.

Material from the Certified Management Accountant Examination, Copyright ©1974 through 1991, by the Institute of Management Accountants (formerly National Association of Accountants) is reprinted with permission.

Material from the Uniform CPA Examination Questions and Unofficial Answers, Copyright © 1970 through 1991, by the American Institute of Certified Public Accountants, is reprinted (or adapted) with permission.

Various material, Copyright © 1973, 1975, and 1976, is from the *Journal of Accountancy*, by the American Institute of Certified Public Accountants, Inc. Opinions of the authors are their own and do not necessarily reflect policies of the AICPA. Reprinted with permission.

ICMA adapted materials from the CMA Examination, Copyright © through 1988, by the Society of Management Accountants of Canada, are used by permission of CMA Canada.

Extracts from Examinations Suggested Solutions/Examiner's Comments, published by the Certified General Accountants Association of Canada (©CGA-Canada, various dates), adapted by permission.

FASB Statement No. 2, *Accounting for Research and Development Costs*, is copyrighted by the Financial Accounting Standards Board, 401 Merritt 7, P.O. Box 5116, Norwalk, Connecticut 06856-5116, U.S.A. One paragraph is reprinted with permission. Complete copies of this document are available from the FASB.

Printed in the United States of America

13 14 15 16 05 04 03 02

For more information contact Thomson Learning Custom Publishing, 5101 Madison Road, Cincinnati, Ohio, 45227, 1-800-355-9983 or find us on the Internet at <http://www.custom.thomsonlearning.com>

For permission to use material from this text or product, contact us by:

- **telephone: 1-800-730-2214**
- **fax: 1-800-730-2215**
- **web: <http://www.thomsonrights.com>**

ISBN 0-324-10906-7

This text is printed on acid-free paper.

Preface

In the past decade, globalization of business, increased competition, and new manufacturing technologies forced many companies to reevaluate their business practices. This reevaluation led to changes in management philosophy and in business systems, which in turn required accountants to reevaluate the usefulness of information that the accounting system provided to management. Accounting systems created primarily to provide information for external reporting, or created at a time when manufacturing technologies and systems were essentially labor driven, are no longer adequate. The information provided by obsolete accounting systems is sometimes useless and sometimes dangerously misleading.

To provide information needed by management, accountants began to redesign accounting systems. Different kinds of data are needed for different kinds of decisions, and different kinds of business systems require different kinds of accounting systems to provide that data. As business systems change, accounting systems are reevaluated and, in some cases, changed. Recognizing these relationships leads to developing and implementing new measurement systems, such as quality costing, activity based costing, and backflush costing, as well as to increased reporting of nonfinancial performance measures.

The thirteenth edition of Cost Accounting emphasizes the use of accounting information in planning and controlling business systems and in supporting a variety of management decisions, including strategic decisions that position the firm to compete better. To be effective, the accounting system must be tailored to the particular business systems employed. Since the goods and services produced by different companies vary substantially, the business systems required for production and marketing vary as well. Because of these differences, there is no one accounting system or alternative superior to all others in all situations. The best accounting system depends on the business system and the information needs of management.

To prepare the student, this textbook not only demonstrates the mechanics of alternative accounting systems and techniques but also explains the logic behind different alternatives. The objective is to help the student learn to look at the business system first and then to design an accounting system that can collect and generate the kind of information needed.

This textbook is designed to provide the necessary background for those who prepare accounting information and for those who use the information. This book presents not only the systems of collecting, organizing, processing, and reporting economic data, but also the uses of accounting information in decision making. This dual emphasis is needed because (1) the accountant must understand how the reader will use information in order to design an accounting system to collect and report the information needed, and (2) the user of accounting information must understand how the accounting system works in order to use the information appropriately and know its limitations.

Highlights of Changes in the Thirteenth Edition

The textbook has undergone revisions to make it shorter and better written, with the goal of assisting both student and instructor. As with the preceding edition, considerable effort has been made to enhance clarity. The primary changes from the twelfth edition are:

1. Several chapters have been edited to improve clarity and brevity of presentation.
2. Chapter 3 has been shortened by deleting an appendix that dealt with how the regression equations are derived.
3. Part Five has been shortened significantly by deleting material on the marketing function's expense management and profitability analysis.

4. Approximately one-third of the problems and exercises have been revised. In some of the chapters that are likely to be of higher importance to many instructors, over half of the problems and exercises have been revised.

Organization of the Book

The organization of the materials presented is designed to provide maximum flexibility in meeting different course objectives. Part One presents material that forms a foundation for understanding the basic concepts and objectives of cost/managerial accounting systems. It thoroughly discusses the cost concept, cost objects, classifications of cost, and cost behavior. Part Two then discusses and illustrates the flow of cost in manufacturing and services businesses. It begins with a general explanation of the flow of costs through the accounts and then expands into an in-depth discussion of the two basic costing systems: job order costing and process costing. Part Two includes the cost of quality, accounting for production losses, and joint- and by-product costing. Part Three focuses on an in-depth understanding of the elements of cost, materials, labor and overhead, from both the planning and control perspectives.

Part Four elaborates on the heart of planning and control: static and flexible budgeting, responsibility accounting and reporting, and standard costing. Part Five deals with the analysis of costs and profits, including direct costing, the theory of constraints, cost-volume-profit analysis, differential cost analysis, capital expenditure planning and analysis, decision making under uncertainty, profit performance measurements, and transfer pricing.

Organization for Instruction

The presentation of the fundamental theoretical and practical aspects of cost accounting provides wide flexibility for classroom usage. In addition to its applicability to the traditional two-semester course sequence, this textbook may be used in a variety of one-semester courses. For these alternative courses, a suggested outline, by chapter numbers, follows:

Course Description	Textbook Chapters
Cost Accounting (two semesters)	Chapters 1-14 (first semester) Chapters 15-25 (second semester)
Cost Accounting (one semester)	Chapters 1-14 and 17
Cost Control (one semester)	Chapters 1-4, 9-14, and 17-19
Budgetary Control (one semester)	Chapters 1-4, 15-19, and 22-23
Cost Analysis (one semester)	Chapters 14-25

End of Chapter Materials

End-of-chapter materials, many of which are revised, include discussion questions, exercises, problems, and cases. For each topic, these materials afford coverage of relevant concepts and techniques at progressive levels in the learning process, thereby providing a significant student-learning benefit. Selected exercises and problems with which the template diskette may be used are designated by symbols in the margin. The end-of-chapter materials include numerous items from the examinations administered by the American Institute of Certified Public Accountants (AICPA adapted), the Institute of Management Accounting (ICMA adapted), the Certified General Accountants' Association of Canada (CGA-Canada Adapted), and the Society of Management Accountants of Canada ('CMA-Canada').

Learning and Teaching Aids that Accompany the Book

For the Instructor

Solutions Manual. This manual contains detailed solutions to the end-of-chapter materials, including the discussion questions, exercises, problems, and cases. Items with which the template diskette may be used are designated by symbols in the margin. In addition, a listing of items coded for use with the template diskette is provided.

Solutions Transparencies. Transparencies of solutions to all exercises, problems, and cases are available to the instructor.

Test Bank, prepared by Edward J. VanDerbeck of Xavier University, Cincinnati. A test bank of multiple choice questions and examination problems accompanied by solutions is available to the instructor. The Test Bank is designed to save time in preparing and grading periodic tests and final examinations.

Spreadsheet Applications. These template diskettes are used with Microsoft Excel¹ for solving selected end-of-chapter exercises and problems identified in the textbook with the symbol in the margin. The diskettes, which also provide a Microsoft Excel tutorial, are provided free of charge to instructors at educational institutions who adopt this text.

For the Student

Study Guide, prepared by Edward J. VanDerbeck. This study guide contains a brief summary of each chapter, as well as questions and exercises with answers, thus providing students with immediate feedback on their comprehension of material.

Practice Cases, prepared by William K. Carter. A job order case and a process cost case are available. Each case acquaints students with basic accounting and analytical characteristics with a minimum of time-consuming detail. Solutions are provided for the instructor.

Acknowledgements

This edition owes a special thanks to Art Francia, whose tireless efforts in going the extra mile were indispensable in producing both this edition and the twelfth, and to Jan Tiefel, whose patience, skill, and persistence were invaluable.

Finally, we wish to express our appreciation to our spouses, Imelda Smith Carter and Dona White Usry, for their patience, assistance, and encouragement in the preparation and completion of this and earlier editions.

January 2002

William K. Carter
Milton F. Usry

¹"Microsoft" and "Excel" are registered trademarks of Microsoft Corporation. Any reference to Microsoft or Excel refers to this footnote.

About the Authors

William K. Carter teaches management accounting at the McIntire School of Commerce, University of Virginia. He earned BS and MS degrees in accounting from the University of Southern Mississippi and a PhD from Oklahoma State University, and he is a CPA. He has written articles on accounting, accounting education, marketing, and finance, which have appeared in a variety of journals including *The Accounting Review* and the *Journal of Accountancy*. He has published cases on cost accounting and on business policy.

Dr. Carter has served on committees of the American Assembly of Collegiate Schools of Business and the American Accounting Association, and on the editorial boards of *The Journal of Accounting Education* and the Education Section of *The Accounting Review*. He has testified as an expert witness in litigation involving accounting matters and has conducted consulting engagements and executive development programs for clients that include IBM, Babcock & Wilcox, the Institute of Chartered Financial Analysts, the Consumer Bankers Association, and the Administrators of Accounting Programs Group of the American Accounting Association.

Dr. Carter is a member of the Institute of Management Accountants, the American Institute of CPAs, and the American Accounting Association Management Accounting Section.

Milton F. Usry is the Mary Ball Washington Professor of Accountancy at the University of West Florida after previously serving on the Oklahoma State University faculty (1961-1986). He earned his BBA from Baylor University, MBA from the University of Houston, PhD from the University of Texas at Austin, and is a CPA. He has written numerous articles, especially in the areas of cost accounting and accounting education, and has served on the editorial boards of several national professional journals.

Dr. Usry received the Oklahoma State University College of Business Administration Outstanding Teacher Award on three occasions. He has served in numerous professional organizations, including the American Accounting Association, the American Institute of CPAs, and the Institute of Management Accountants.

In the area of professional certification, Dr. Usry has been a member of the AICPA Board of Examiners and the Institute of Certified Management Accountants Board of Regents. In the field government service, he has served on the National Board of the Fund for the Improvement of Postsecondary Education of the U.S. Department of Education. In the private sector, he has served as chairman of the Baptist Health Care Board of Directors, Pensacola, Florida.

Contents in Brief

Part 1 Costs: Concepts and Objectives

- 1 Management, the Controller, and Cost Accounting 1-1
- 2 Cost Concepts and the Cost Accounting Information System 2-1
- 3 Cost Behavior Analysis 3-1

Part 2 Cost Accumulation

- 4 Cost Systems and Cost Accumulation 4-1
- 5 Job Order Costing 5-1
- 6 Process Costing 6-1
- 7 The Cost of Quality and Accounting for Production Losses 7-1
- 8 Costing By-Products and Joint Products 8-1

Part 3 Planning and Control of Costs

- 9 Materials: Controlling, Costing, and Planning 9-1
- 10 Just-in-Time and Backflushing 10-1
- 11 Labor: Controlling and Accounting for Costs 11-1
- 12 Factory Overhead: Planned, Actual, and Applied 12-1
- 13 Factory Overhead: Departmentalization 13-1
- 14 Activity Accounting: Activity-Based Costing and
Activity-Based Management 14-1

Part 4 Budgeting and Standard Costs

- 15 Budgeting: Profits, Sales, Costs, and Expenses 15-1
- 16 Budgeting: Capital Expenditures, Research and Development
Expenditures, and Cash: PERT/Cost 16-1
- 17 Responsibility Accounting and Reporting 17-1
- 18 Standard Costing: Setting Standards and Analyzing Variances 18-1
- 19 Standard Costing: Incorporating Standards into
the Accounting Records 19-1

Part 5 Analysis of Costs and Profits

- 20 Direct Costing, CVP Analysis, and the Theory of Constraints 20-1
- 21 Differential Cost Analysis 21-1
- 22 Planning for Capital Expenditures 22-1
- 23 Economic Evaluation of Capital Expenditures 23-1
- 24 Decision Making Under Uncertainty 24-1
- 25 Profit Performance Measurements and Intracompany
Transfer Pricing 25-1

- Glossary G-1
- Index I-1

Contents

Part 1 Costs: Concepts and Objectives

Chapter 1 Management, the Controller, and Cost Accounting	1-1
Learning Objectives	1-1
Management	1-1
Planning	1-2
Organizing	1-3
Control	1-3
Authority, Responsibility, and Accountability	1-3
The Organization Chart	1-4
The Controller's Participation in Planning and Control	1-5
The Cost Department	1-7
The Role of Cost Accounting	1-7
Budgeting	1-9
Controlling Costs	1-10
Pricing	1-10
Determining Profits	1-10
Choosing Among Alternatives	1-11
Cost Accounting and Manufacturing Technology	1-11
Certification and Ethics	1-12
Influence of Private and Governmental Organizations	1-12
Taxation	1-12
Cost Accounting Standards Board	1-13
 Chapter 2 Cost Concepts and the Cost Accounting Information System	2-1
Learning Objectives	2-1
The Cost Concept	2-1
Cost Objects	2-2
Traceability of Costs to Cost Objects	2-3
Cost Traceability in Service Industries	2-4
The Cost Accounting Information System	2-5
Chart of Accounts	2-5
Electronic Data Processing	2-6
Sensitivity to Changing Methods	2-7
Nonfinancial Performance Measures	2-7
Classifications of Costs	2-9
Costs in Relation to the Product	2-10
Costs in Relation to the Volume of Production	2-12
Costs in Relation to Manufacturing Departments or Other Segments	2-14
Costs in Relation to an Accounting Period	2-15
Costs in Relation to a Decision, Action, or Evaluation	2-16

Chapter 3 Cost Behavior Analysis	3-1
Learning Objectives	3-1
Classifying Cost	3-1
Fixed Cost	3-1
Variable Cost	3-2
Semivariable Cost	3-3
Separating Fixed and Variable Costs	3-4
High and Low Points Method	3-6
Scattergraph Method	3-7
Method of Least Squares	3-9
Method of Least Squares for Multiple Independent Variables	3-16

Part 2 Cost Accumulation

Chapter 4 Cost Systems and Cost Accumulation	4-1
Learning Objectives	4-1
Flow of Costs in a Manufacturing Enterprise	4-1
Reporting the Results of Operations	4-8
Income Statement	4-8
Balance Sheet	4-8
Statement of Cash Flows	4-10
Cost Systems	4-11
Cost Accumulation	4-12
Job Order Costing	4-13
Process Costing	4-13
Aspects Common to Both Job Order and Process Costing	4-14
Blended Methods	4-15
Backflush Costing	4-16
Chapter 5 Job Order Costing	5-1
Learning Objectives	5-1
Overview of Job Order Costing	5-1
Accounting for Materials	5-3
Materials Purchased	5-3
Materials Used	5-4
Accounting for Labor	5-5
Factory Labor Cost Incurred	5-5
Factory Labor Costs Distributed	5-6
Accounting for Factory Overhead	5-7
Actual Factory Overhead Incurred	5-7
Estimated Factory Overhead Applied	5-8
Accounting for Jobs Completed and Products Sold	5-9
Job Order Costing in Service Businesses	5-11

Chapter 6 Process Costing	6-1
Learning Objectives	6-1
Process Cost Accumulation	6-1
Costing by Departments	6-2
Physical Production Flow	6-3
Accounting for Materials, Labor, and Factory Overhead Costs	6-4
The Cost of Production Report	6-7
Increase in Quantity of Production When Materials Are Added	6-11
Appendix Process Costing with a Fifo Cost Flow Assumption	6-15
Increase in Quantity of Production When Materials are Added	6-19
 Chapter 7 The Cost of Quality and Accounting for Production Losses	7-1
Learning Objectives	7-1
The Cost of Quality	7-2
Types of Quality Costs	7-2
Total Quality Management	7-2
Continuous Quality Improvement	7-4
Measuring and Reporting the Cost of Quality	7-6
Accounting for Production Losses in a Job Order Cost System	7-7
Accounting for Scrap	7-7
Accounting for Spoiled Goods	7-8
Accounting for Rework	7-10
Accounting for Production Losses in a Process Cost System	7-12
Spoilage Attributable to Internal Failures	7-12
Normal Production Shrinkage	7-17
Appendix Process Costing with a Fifo Cost Flow Assumption	7-19
Spoilage Attributable to Internal Failures	7-19
Normal Production Shrinkage	7-24
 Chapter 8 Costing By-Products and Joint Products	8-1
Learning Objectives	8-1
By-Products and Joint Products Defined	8-1
Nature of By-Products and Joint Products	8-2
Joint Costs	8-2
Difficulties in Costing By-Products and Joint Products	8-2
Methods of Costing By-Products	8-3
Method 1: Recognition of Gross Revenue	8-4
Method 2: Recognition of Net Revenue	8-5
Method 3: Replacement Cost Method	8-6
Method 4: Market Value (Reversal Cost) Method	8-6
Underlying Accounting Theory	8-7
Methods of Allocating Joint Production Cost to Joint Products	8-7
Market Value Method	8-8
Average Unit Cost Method	8-10
Weighted-Average Method	8-11
Quantitative Unit Method	8-11
Federal Income Tax Laws and the Costing of Joint Products and By-Products ..	8-12
Joint Cost Analysis for Managerial Decisions and Profitability Analysis	8-13
Ethical Considerations	8-14

Part 3 Planning and Control of Costs

Chapter 9 Materials: Controlling, Costing, and Planning	9-1
Learning Objectives	9-1
Materials Procurement and Use	9-1
Purchase of Materials	9-2
Purchases of Supplies, Services, and Repairs	9-3
Purchasing Forms	9-3
Receiving	9-4
Invoice Approval and Data Processing	9-5
Cost of Acquiring Materials	9-6
Storage and Use of Materials	9-8
Issuing and Costing Materials	9-8
Materials Subsidiary Records	9-9
Quantitative Models	9-10
Planning Materials Requirements	9-11
Economic Order Quantity	9-11
The EOQ Formula and Production Runs	9-14
Determining the Time to Order	9-15
Order Point Formula	9-16
Computer Simulation for Materials Requirements Planning	9-18
Materials Control	9-18
Materials Control Methods	9-19
Control of Obsolete and Surplus Inventory	9-20
Appendix Inventory Costing Methods	9-20
First In, First Out (Fifo)	9-21
Average Cost	9-21
Last In, First Out (Lifo)	9-23
Comparison of Costing Methods	9-24
CASB Costing of Materials	9-25
Lower of Cost or Market	9-25
Interim Financial Reporting of Inventory	9-25
Chapter 10 Just-In-Time and Backflushing	10-1
Learning Objectives	10-1
Just-in-Time	10-1
JIT and Velocity	10-3
JIT and Production Losses	10-4
JIT and Purchasing	10-6
JIT and Factory Organization	10-7
JIT—A Balanced View	10-8
Backflushing	10-10
The Essence of Backflush Costing	10-10
A Basic Financial Accounting Analogy	10-11
Illustration of Backflush Costing	10-12

Chapter 11 Labor: Controlling and Accounting for Costs	11-1
Learning Objectives	11-1
Productivity and Labor Costs	11-1
Planning Productivity	11-2
Measuring Productivity	11-2
Economic Impact of Productivity	11-3
Increasing Productivity by Better Management of Human Resources	11-3
Incentive Wage Plans	11-4
Purpose of an Incentive Wage Plan	11-4
Types of Incentive Wage Plans	11-5
Organizational Incentive (Gainsharing) Plans	11-8
Time Standards and Learning Curve Theory	11-9
Organization for Labor Cost Accounting and Control	11-11
Personnel Department	11-12
Production Planning Department	11-12
Timekeeping Department	11-12
Payroll Department	11-15
Cost Department	11-16
Departmental Interrelationships and Labor Cost Control and Accounting	11-16
Ethical Considerations	11-16
Appendix Accounting for Personnel-Related Costs	11-17
Overtime Earnings	11-18
Bonus Payments and Deferred Compensation Plans	11-19
Vacation Pay	11-20
Guaranteed Annual Wage Plans	11-21
Pension Plans	11-21
Additional Legislation Affecting Labor-Related Costs	11-23
Labor-Related Deductions	11-25
Recording Labor Costs	11-26
 Chapter 12 Factory Overhead: Planned, Actual, and Applied	12-1
Learning Objectives	12-1
The Nature of Factory Overhead	12-1
Use of a Predetermined Overhead Rate	12-2
Factors Considered in Selecting Overhead Rates	12-3
Base to Be Used	12-3
Selection of Activity Level	12-8
Including or Excluding Fixed Overhead	12-10
Calculation of an Overhead Rate	12-10
Actual Factory Overhead	12-12
Applied Overhead and the Over- or Underapplied Amount	12-13
Applying Factory Overhead	12-13
Over- or Underapplied Factory Overhead	12-14
Disposition of Over- or Underapplied Amount	12-14
Changing Overhead Rates	12-18

Chapter 13 Factory Overhead: Departmentalization	13-1
Learning Objectives	13-1
Departmentalization	13-1
Producing and Service Departments	13-2
Selection of Producing Departments	13-2
Selection of Service Departments	13-3
Direct Departmental Costs	13-3
Supervision, Indirect Labor, and Overtime	13-4
Labor Fringe Benefits	13-4
Indirect Materials and Factory Supplies	13-4
Repairs and Maintenance	13-4
Equipment Depreciation	13-5
Indirect Departmental Costs	13-5
Establishing Departmental Overhead Rates	13-6
Estimating Direct Departmental Costs	13-8
Factory Survey	13-9
Estimating and Allocating Indirect Costs	13-9
Distributing Service Department Costs	13-9
Calculating Departmental Overhead Rates	13-16
Using Departmental Overhead Rates	13-17
Actual Factory Overhead—Departmentalized	13-17
Steps at End of Fiscal Period	13-18
Multiple Overhead Rates	13-20
Overhead Departmentalization in Nonmanufacturing Businesses and Not-for-Profit Organizations	13-23
 Chapter 14 Activity Accounting: Activity-Based Costing and Activity-Based Management	14-1
Learning Objectives	14-1
Activity-Based Costing	14-1
Levels of Costs and Drivers	14-2
Comparison of ABC and Traditional Costing	14-5
ABC and Product Cost Distortion	14-5
Strategic Advantage of ABC	14-10
Examples of ABC Implementation	14-14
Strengths and Weaknesses of ABC	14-16
Activity-Based Management	14-17
Behavioral Changes	14-19
Cost Control	14-20

Part 4 Budgeting and Standard Costs

Chapter 15 Budgeting: Profits, Sales, Costs, and Expenses	15-1
Learning Objectives	15-1
Profit Planning	15-1
Setting Profit Objectives	15-2
Long-Range Profit Planning	15-3

Short-Range Budgets	15-3
Advantages of Profit Planning	15-4
Limitations of Profit Planning	15-4
Principles of Budgeting	15-5
The Budget Committee	15-6
Budget Development and Implementation	15-6
Budgeting and Human Behavior	15-7
The Complete Periodic Budget	15-8
Sales Budget	15-10
Production Budget	15-13
Manufacturing Budgets	15-13
Budgeting Commercial Expenses	15-22
Budgeted Income Statement	15-23
Budgeted Balance Sheet	15-24
Chapter 16 Budgeting: Capital Expenditures, Research and Development Expenditures, and Cash; PERT/Cost	16-1
Learning Objectives	16-1
Capital Expenditures Budget	16-1
Evaluating Capital Expenditures	16-2
Short- and Long-Range Capital Expenditures	16-2
Research and Development Budget	16-2
Form of a Research and Development Budget	16-4
Accounting for Research and Development Costs	16-4
Cash Budget	16-5
Purpose and Nature of a Cash Budget	16-5
Preparation of a Periodic Cash Budget	16-6
Development of Daily Cash Budget Detail	16-8
Electronic Cash Management	16-8
Planning and Budgeting for Nonmanufacturing Businesses and Not-for-Profit Organizations	16-9
Nonmanufacturing Businesses	16-9
Not-for-Profit Organizations	16-10
Zero-Base Budgeting	16-11
Computerized Budgeting	16-12
Prospective Financial Information for External Users	16-13
PERT and PERT/Cost Systems for Planning and Control	16-14
The PERT System	16-14
The PERT/Cost System	16-16
Computer Applications	16-17
Probabilistic Budgets	16-17
Chapter 17 Responsibility Accounting and Reporting	17-1
Learning Objectives	17-1
Responsibility Accounting and Cost Control—the Traditional View	17-2
Organizational Structure	17-2
Determining Who Controls Cost	17-3

Responsibility for Overhead Costs	17-5
Responsibility Reporting	17-8
Fundamental Characteristics of Responsibility Reports	17-9
Responsibility-Reporting Systems Illustrated	17-10
Reviewing the Reporting Structure	17-12
The Flexible Budget and Variance Analysis	17-12
Preparing a Flexible Budget	17-12
Preparing a Variance Report	17-17
Responsibility Accounting and Reporting—an Alternative View	17-19
Dysfunctional Behavior by Managers	17-19
Usefulness of the Data to Managers	17-21
 Chapter 18 Standard Costing: Setting Standards and	
Analyzing Variances	18-1
Learning Objectives	18-1
Usefulness of Standard Costs	18-1
Setting Standards	18-3
Determining Standard Production	18-5
Determining Standard Cost Variances	18-7
Materials Standards and Variances	18-7
Labor Standards and Variances	18-9
Factory Overhead Standards and Variances	18-11
Mix and Yield Variances	18-16
Mix Variance	18-16
Yield Variance	18-17
Illustration of Mix and Yield Variances	18-17
Responsibility and Control of Variances	18-19
Causes of Variances	18-20
Tolerance Limits for Variance Control	18-26
Overemphasizing Variances	18-26
Appendix Alternative Factory Overhead Variance Methods	18-28
Alternative Three-Variance Method	18-28
Four-Variance Method	18-29
 Chapter 19 Standard Costing: Incorporating Standards into	
the Accounting Records	19-1
Learning Objectives	19-1
Recording Standard Cost Variances in the Accounts	19-1
Standard Cost Accounting for Materials	19-2
Method 1	19-3
Method 2	19-3
Method 3	19-4
Standard Cost Accounting for Labor	19-4
Standard Cost Accounting for Factory Overhead	19-5
Two-Variance Method	19-6
Three-Variance Method	19-6
Standard Cost Accounting for Completed Products	19-7

Disposition of Variances	19-7
Variances Treated as Period Expenses	19-7
Variances Allocated to Cost of Goods Sold and Ending Inventories	19-10
The Logic of Disposing of Variances	19-13
Disposition of Variances for Interim Financial Reporting	19-14
Revision of Standard Costs	19-14
Broad Applicability of Standard Costing	19-15
Appendix Alternative Factory Overhead Variance Methods	19-16
Alternative Three-Variance Method	19-16
Four-Variance Method	19-16

Part 5 Analysis of Costs and Profits

Chapter 20 Direct Costing, CVP Analysis, and the Theory of Constraints ..	20-1
Learning Objectives	20-1
Direct Costing	20-2
Contribution Margin Defined	20-3
Internal Uses of Direct Costing	20-3
External Uses of Direct Costing	20-7
Cost-Volume-Profit Analysis	20-14
Constructing a Break-Even Chart	20-17
Cost-Volume-Profit Analysis for Decision Making	20-19
The Theory of Constraints	20-24
Measures Used in the Theory of Constraints	20-24
Using the Theory of Constraints	20-25
Examples of TOC Implementation	20-26
Embracing TOC as an Accounting Tool	20-27
Chapter 21 Differential Cost Analysis	21-1
Learning Objectives	21-1
Differential Cost Studies	21-1
Examples of Differential Cost Studies	21-4
Accepting Additional Orders	21-4
Reducing the Price of a Special Order	21-5
Make-or-Buy Decisions	21-8
Decisions to Shut Down Facilities	21-9
Decisions to Discontinue Products	21-11
Additional Applications of Differential Cost Analysis	21-13
Appendix Linear Programming	21-17
Maximization of Contribution Margin	21-17
Minimization of Cost	21-21
Simplex Method	21-22
Chapter 22 Planning for Capital Expenditures	22-1
Learning Objectives	22-1
Planning for Capital Expenditures	22-1
Relating Plans to Objectives	22-1