

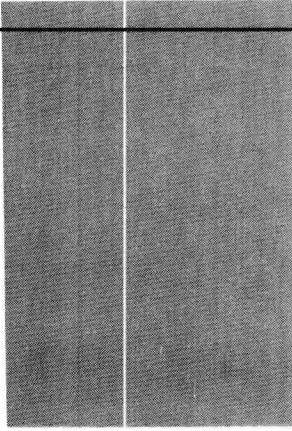


FUNDAMENTALS OF FINANCIAL MANAGEMENT

Eighth Edition

JAMES C. VAN HORNE
JOHN M. WACHOWICZ, JR.

EIGHTH
EDITION



FUNDAMENTALS OF FINANCIAL MANAGEMENT

James C. Van Horne

STANFORD UNIVERSITY

John M. Wachowicz, Jr.

THE UNIVERSITY OF TENNESSEE



PRENTICE HALL, Englewood Cliffs, New Jersey 07632

Library of Congress Cataloging-in-Publication Data

Van Horne, James C.
Fundamentals of financial management / James C. Van Horne,
John M. Wachowicz, Jr.—8th ed.
p. cm.
ISBN 0-13-351834-5
1. Corporation—Finance. I. Wachowicz, John Martin.
HG4011.V36 1991
658.15—dc20

90-26486
CIP

Acquisition editor: Whitney Blake
Production editor: Joanne Palmer
Copy editor: Lisa McKurdy
Interior and cover design: David L. Levy
Prepress buyer: Trudy Piscioti
Manufacturing buyer: Bob Anderson
Editorial assistant: Diane DeCastro
Cover photo: Andy Caulfield



© 1992 by Prentice-Hall, Inc.
A Simon & Schuster Company
Englewood Cliffs, New Jersey 07632

All rights reserved. No part of this book may be
reproduced, in any form or by any means,
without permission in writing from the publisher.

Printed in the United States of America

10 9 8 7 6 5 4 3 2 1

ISBN 0-13-351834-5

PRENTICE-HALL INTERNATIONAL (UK) LIMITED, *London*
PRENTICE-HALL OF AUSTRALIA PTY, LIMITED, *Sydney*
PRENTICE-HALL CANADA INC., *Toronto*
PRENTICE-HALL HISPANOAMERICANA, S.A., *Mexico*
PRENTICE-HALL OF INDIA PRIVATE LIMITED, *New Delhi*
PRENTICE-HALL OF JAPAN, INC., *Tokyo*
SIMON & SCHUSTER ASIA PTE. LTD., *Singapore*
EDITORIA PRENTICE-HALL DO BRASIL, LTDA., *Rio de Janeiro*

To Mimi, Drew, Stuart and Stephen

James C. Van Horne

To Emerson, John, June, Lien and Patricia

John M. Wachowicz, Jr.



PREFACE

The purpose of *Fundamentals of Financial Management* is not only to provide an understanding of how funds are raised and allocated within a company, but to inspire an interest in what goes on in corporate finance. It is an exciting subject. Important academic advances are on-going, and we have tried to capture them. The financial environment is ever-changing—the globalization of finance, reforms of regulatory and tax law, varying economies worldwide, the market for corporate control, and a host of other considerations permeate the landscape of financial decision making. These are fascinating times and finance is very much a part of them. If we can instill excitement in our readers, we will consider ourselves successful.

The book is designed for use in an introductory course in financial management. It is both conceptual and applied. Most of the concepts are expressed verbally, with a minimum of math. Concepts are not expressed abstractly, but as a means for better decision making, whether in raising funds, paying dividends, or investing in capital. The tools of financial analysis and control are similarly addressed. Finally, we present some of the rich institutional backdrop in which financial decisions occur.

This edition has been completely rewritten from start to finish. Under the lead and largely due to the work of John Wachowicz, the expression, format, and style of the book have changed dramatically. Every aspect and literally every word have been carefully reviewed, and substantial changes have been made. All of them are directed to making this text easier to understand. This is not to say that newer ideas have not been integrated into the book. They have been. However, the major emphasis has been on making the learning process easier.

A number of materials are available to supplement the text. For the professor, there is a comprehensive *Instructor's Manual*, which contains suggestions

for organizing the course, answers to questions, solutions to problems, and transparency masters. Another aid is a test-item file of extensive questions and problems, both in hard copy and on computer disk. These materials can be obtained from Prentice Hall. For the student, the text contains many self-correction problems as well as extensive references to original literature sources. Also available is an excellent *Study Guide to Fundamentals of Financial Management*, written by Mary Kay Sullivan, to help the student master financial decision making. Finally, there is *Financial Management Computer Applications*, written by Stuart B. Van Horne and James C. Van Horne. This booklet and disks may be used with Lotus 1-2-3 or Macintosh Excel. End-of-chapter problems that can be solved using the software contained in *Financial Management Computer Applications* are identified by the computer disk symbol shown in the margin.



The authors are grateful for the comments and suggestions of a number of professionals. In particular we wish to thank Kent Adams and Ali Bahaj, Caterpillar, Inc.; Jennifer Banner, Pershing & Yoakley, CPAs; Burton Harvey, First Wachovia; Rebecca Isbell, Continental Bank; John Markese, American Association of Individual Investors; Jean Proffitt, Shell Oil Company; and Annette Winston, First Knoxville. Special thanks go to two individuals who carefully reviewed each chapter and made numerous suggestions: James Locke, Savance Corporation, and June Wachowicz, McKinsey & Company, Inc.

Finally, we wish to thank the many people who assisted in the preparation of the manuscript. Lynn Landry, Joan Snoderly, Patricia Hunley, Patricia Flynn, Julia Elkins, and Jeanne McDonald provided valuable help in proofreading the manuscript and in producing the tables, figures, and boxed items. Sherry Gilbertson did an excellent job of keyboarding some crucial chapters. Lisa McKirdy handled the job of copy editing, while Joanne Palmer was a perfect choice as production editor. And a special acknowledgement goes to Janie McNabb, who devoted countless hours to researching items and keyboarding problems, the instructor's manual, and some of the chapters.

We believe the final product, the book you have before you, is much improved. You the reader are the judge, and we will be grateful for your comments.

JAMES C. VAN HORNE *Palo Alto, California*

JOHN M. WACHOWICZ, JR. *Knoxville, Tennessee*



CONTENTS

Preface

xv

PART I INTRODUCTION TO FINANCIAL MANAGEMENT

1 The Role of Financial Management	1
Introduction / 2	
What is Financial Management? / 2	
The Goal of the Firm / 3	
Organization of the Financial Management Function / 7	
Organization of the Book / 8	
Summary / 10	
Questions / 11	
Selected References / 12	
2 The Business, Tax, and Financial Environments	13
The Business Environment / 14	
The Tax Environment / 16	
The Financial Environment / 23	
Summary / 34	
Questions / 35	
Self-Correction Problems / 37	

Problems / 38	
Solutions to Self-Correction Problems / 39	
Selected References / 40	

PART II VALUATION

3 The Time Value of Money	41
The Interest Rate / 42	
Simple Interest / 43	
Compound Interest / 44	
Compounding More Than Once a Year / 60	
Summary / 65	
Questions / 66	
Self-Correction Problems / 67	
Problems / 68	
Solutions to Self-Correction Problems / 71	
Selected References / 73	
4 The Valuation of Long-Term Securities	74
Distinctions Among Valuation Concepts / 75	
Bond Valuation / 76	
Preferred Stock Valuations / 80	
Common Stock Valuation / 81	
Rates of Return (or Yields) / 86	
Summary Table of Key Present-Value Formulas for Valuing Securities / 92	
Summary / 93	
Questions / 94	
Self-Correction Problems / 95	
Problems / 96	
Solutions to Self-Correction Problems / 97	
Selected References / 98	
5 Risk and Return	99
Defining Risk and Return / 100	
Using Probability Distributions to Measure Risk / 101	
Attitudes Toward Risk / 105	
Risk and Return in a Portfolio Context / 106	
Diversification / 110	
The Capital-Asset Pricing Model (CAPM) / 112	

Summary / 121
APPENDIX: Arbitrage Pricing Theory / 123
Questions / 126
Self-Correction Problems / 126
Problems / 127
Solutions to Self-Correction Problems / 130
Selected References / 131

PART III TOOLS OF FINANCIAL ANALYSIS AND PLANNING

6 Financial Statement Analysis	133
Financial Statements / 134	
A Possible Framework for Analysis / 138	
Balance Sheet Ratios / 143	
Income Statement and Income Statement/Balance Sheet Ratios / 147	
Trend Analysis / 159	
Common-Size and Index Analysis / 161	
Summary / 164	
Summary of Key Ratios / 165	
APPENDIX A: Inflation and Financial Analysis / 167	
APPENDIX B: Deferred Taxes and Financial Analysis / 170	
Questions / 172	
Self-Correction Problems / 173	
Problems / 175	
Solutions to Self-Correction Problems / 181	
Selected References / 184	
7 Funds Analysis, Cash Flow Analysis, and Financial Planning	186
Flow of Funds (Sources and Uses) Statement / 188	
Statement of Cash Flows / 194	
Cash-Flow Forecasting / 199	
Range of Cash-Flow Estimates / 205	
Forecasting Financial Statements / 207	
Summary / 212	
APPENDIX: Sustainable Growth Modeling / 213	
Questions / 220	
Self-Correction Problems / 221	
Problems / 224	
Solutions to Self-Correction Problems / 228	
Selected References / 232	

PART IV WORKING CAPITAL MANAGEMENT

8 Overview of Working Capital Management	234
Introduction / 235	
Working Capital Issues / 237	
Financing Current Assets: Short-Term and Long-Term Mix / 240	
Combining Liability Structure and Current Asset Decisions / 245	
Summary / 247	
Questions / 248	
Self-Correction Problems / 248	
Problems / 249	
Solutions to Self-Correction Problems / 251	
Selected References / 251	
9 Cash and Marketable Securities Management	253
Motives for Holding Cash / 254	
Speeding up Cash Receipts / 255	
S-l-o-w-i-n-g D-o-w-n Cash Payouts / 259	
Cash Balances to Maintain / 262	
Investment in Marketable Securities / 264	
Selecting Securities for the Portfolio Segments / 271	
Summary / 274	
Questions / 275	
Self-Correction Problems / 276	
Problems / 277	
Solutions to Self-Correction Problems / 278	
Selected References / 279	
10 Accounts Receivable and Inventory Management	280
Credit and Collection Policies / 281	
Analyzing the Credit Applicant / 289	
Inventory Management and Control / 295	
Summary / 306	
APPENDIX: An Inventory Approach to Cash Management / 307	
Questions / 309	
Self-Correction Problems / 310	
Problems / 312	
Solutions to Self-Correction Problems / 316	
Selected References / 318	

11 Short-Term Financing	320
Spontaneous Financing / 321	
Negotiated Financing / 327	
Factoring Accounts Receivable / 340	
Composition of Short-Term Financing / 342	
Summary / 343	
Questions / 345	
Self-Correction Problems / 346	
Problems / 347	
Solutions to Self-Correction Problems / 349	
Selected References / 351	

PART V INVESTMENT IN CAPITAL ASSETS

12 Capital Budgeting and Estimating Cash Flows	352
The Capital Budgeting Process: An Overview / 353	
Generating Investment Project Proposals / 354	
Estimating Project "After-Tax Incremental Operating Cash Flows" / 354	
Summary / 365	
Questions / 366	
Self-Correction Problems / 366	
Problems / 367	
Solutions to Self-Correction Problems / 369	
Selected References / 371	
13 Capital Budgeting Techniques	372
Project Evaluation and Selection: Alternative Methods / 373	
Potential Difficulties / 381	
Summary / 390	
APPENDIX: Multiple Internal Rates of Return / 391	
Questions / 394	
Self-Correction Problems / 394	
Problems / 396	
Solutions to Self-Correction Problems / 398	
Selected References / 400	
14 Risk and Capital Budgeting	402
The Problem of Project Risk / 403	
Total Project Risk / 408	
Contribution to Total Firm Risk: Firm-Portfolio Approach / 416	

Summary / 421	
Questions / 422	
Self-Correction Problems / 423	
Problems / 424	
Solutions to Self-Correction Problems / 427	
Selected References / 429	

PART VI THE COST OF CAPITAL, CAPITAL STRUCTURE, AND DIVIDEND POLICY

15 Required Returns and the Cost of Capital	430
Creation of Value / 431	
Overall Cost of Capital of the Firm / 432	
The CAPM: Project-Specific and Group-Specific Required Rates of Return / 445	
Evaluation of Projects on the Basis of Their Total Risk / 451	
Summary / 456	
APPENDIX A: Adjusting the Beta for Financial Leverage / 457	
APPENDIX B: Replacement Chain Analysis / 459	
Questions / 462	
Self-Correction Problems / 463	
Problems / 464	
Solutions to Self-Correction Problems / 468	
Selected References / 471	
16 Operating and Financial Leverage	473
Operating Leverage / 474	
Financial Leverage / 482	
Total Leverage / 492	
Cash-Flow Ability to Service Debt / 493	
Other Methods of Analysis / 497	
Combination of Methods / 500	
Summary / 501	
Questions / 502	
Self-Correction Problems / 503	
Problems / 505	
Solutions to Self-Correction Problems / 508	
Selected References / 512	
17 Capital Structure Determination	513
A Conceptual Look / 514	
The Total-Value Principle / 518	

Presence of Market Imperfections and Incentive Issues /	521
The Effect of Taxes /	524
Taxes and Market Imperfections Combined /	527
Financial Signaling /	529
Summary /	530
Questions /	531
Self-Correction Problems /	532
Problems /	533
Solutions to Self-Correction Problems /	536
Selected References /	538

18 Dividend Policy 540

Passive Versus Active Dividend Policy /	541
Factors Influencing Dividend Policy /	547
Dividend Stability /	551
Stock Dividends and Stock Splits /	554
Stock Repurchase /	558
Administrative Considerations /	562
Summary /	563
Questions /	565
Self-Correction Problems /	566
Problems /	567
Solutions to Self-Correction Problems /	571
Selected References /	573

PART VII INTERMEDIATE AND LONG-TERM FINANCING

19 The Capital Market 575

<i>Deja Vu</i> All over Again /	576
Public Issue /	576
Privileged Subscription /	580
Regulation of Security Offerings /	586
Private Placement /	590
The Secondary Market /	592
Summary /	593
Questions /	594
Self-Correction Problems /	595
Problems /	596
Solutions to Self-Correction Problems /	597
Selected References /	598

20	Long-Term Debt, Preferred Stock, and Common Stock	600
	Bonds and Their Features / 601	
	Types of Long-Term Debt Instruments / 602	
	Retirement of Bonds / 605	
	Preferred Stock and Its Features / 607	
	Common Stock and Its Features / 611	
	Rights of Common Shareholders / 613	
	Classified Common Stock / 616	
	Summary / 617	
	APPENDIX: Refunding a Bond Issue / 618	
	Questions / 621	
	Self-Correction Problems / 622	
	Problems / 623	
	Solutions to Self-Correction Problems / 626	
	Selected References / 627	
21	Term Loans and Leases	630
	Term Loans / 631	
	Provisions of Loan Agreements / 633	
	Equipment Financing / 636	
	Lease Financing / 637	
	Evaluating Lease Financing in Relation to Debt Financing / 641	
	Summary / 646	
	APPENDIX: Accounting Treatment of Leases / 647	
	Questions / 649	
	Self-Correction Problems / 651	
	Problems / 651	
	Solutions to Self-Correction Problems / 654	
	Selected References / 656	

PART VIII SPECIAL AREAS OF FINANCIAL MANAGEMENT

22	Convertibles, Exchangeables, and Warrants	658
	Convertible Security Features / 659	
	Use of Convertibles / 661	
	Value of Convertible Securities / 664	
	Exchangeable Bonds / 667	
	Warrants / 669	

Summary / 672	
APPENDIX: Option Pricing / 673	
Questions / 680	
Self-Correction Problems / 681	
Problems / 682	
Solutions to Self-Correction Problems / 685	
Selected References / 686	
23 Mergers and Other Forms of Corporate Restructuring	688
Sources of Value / 689	
Impact of Merger Terms / 693	
Acquisitions and Capital Budgeting / 700	
Closing the Deal / 703	
Takeovers, Tender Offers, and Defenses / 708	
Divestiture / 712	
Ownership Restructuring / 714	
Leveraged Buyouts / 716	
Summary / 719	
APPENDIX: Remedies for a Failing Company / 720	
Questions / 726	
Self-Correction Problems / 727	
Problems / 729	
Solutions to Self-Correction Problems / 735	
Selected References / 738	
24 International Financial Management	741
Some Background / 742	
Types of Exchange-Rate Risk Exposure / 746	
Management of Exchange-Rate Risk Exposure / 751	
Financing International Trade / 762	
Summary / 765	
Questions / 766	
Self-Correction Problems / 767	
Problems / 769	
Solutions to Self-Correction Problems / 771	
Selected References / 773	
Appendix	775
Table I: Future value interest factor / 776	
Table II: Present value interest factor / 778	

Table III: Future value interest factor of an (ordinary) annuity / 780

Table IV: Present value interest factor of an (ordinary) annuity / 782

Table V: Area of normal distribution that is Z standard deviations to the left or right of the mean / 784

Glossary 785

Index 805

CHAPTER

1

THE ROLE OF FINANCIAL MANAGEMENT

INTRODUCTION

WHAT IS FINANCIAL MANAGEMENT?

*Investment Decision / Financing Decision / Asset
Management Decision*

THE GOAL OF THE FIRM

*Profit Maximization Versus Value Creation / Management
Versus Shareholders / Social Responsibility*

ORGANIZATION OF THE FINANCIAL MANAGEMENT FUNCTION

ORGANIZATION OF THE BOOK

*The Underpinnings / Managing and Acquiring
Assets / Financing Assets / A Mixed Bag*

SUMMARY

QUESTIONS

SELECTED REFERENCES

Wealth to us is not mere material for vainglory but an opportunity for achievement.

—Thucydides