

DISK INCLUDED

REAL
ESTATE
FINANCE
THEORY AND
PRACTICE

SECOND EDITION

TERRENCE M. CLAURETIE

G. STACY SIRMANS

REAL ESTATE FINANCE

Theory and Practice

Second Edition

TERRENCE M. CLAURETIE

University of Nevada, Las Vegas

G. STACY SIRMANS

Florida State University



Prentice Hall
Upper Saddle River, New Jersey 07458

Library of Congress Cataloging-in-Publication Data

Clauretie, Terrence M.

Real estate finance : theory and practice / Terrence M. Clauretie,
G. Stacy Sirmans.

p. cm.

Includes bibliographical references and index.

ISBN 0-13-433475-2

1. Mortgage loans--United States. 2. Real property--United
States--Finance. 3. Housing--United States--Finance. I. Sirmans,
G. Stacy. II. Title.

HG2040.5.U5C59 1996

332.7'2--dc20

95-40427

CIP

Acquisitions Editor: Catherine Rossbach

Editorial Assistant: Craig Campanella

Director of Production and Manufacturing: Bruce Johnson

Managing Editor: Mary Carnis

Editorial/Production Supervision: Cindy Hass/Carlisle Publishers Services

Manufacturing Buyer: Ilene Sanford

Cover Design: Eileen Burke



© 1996 by Prentice-Hall, Inc.

A Simon & Schuster Company

Upper Saddle River, New Jersey 07458

This text was published by The Dryden Press, a division of Harcourt
Brace & Company, in its first edition as *The Theory and Practice of
Real Estate Finance* by Terrence M. Clauretie and James Webb
(copyright © 1993 by The Dryden Press).

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 0-13-433475-2

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

Editora Prentice-Hall do Brasil, Ltda., Rio de Janeiro

P R E F A C E

Goals and Foundation of the Text

The title of this textbook, *Real Estate Finance: Theory and Practice*, suggests that the material covered here reflects a blend of theory and practice. In fact, our goal is to apply the theoretical aspects of financial economics to explain how real estate financial institutions and markets have developed and evolved to their present state, and why they take the form they do. We are not content with providing only descriptions of institutions and definitions of terms. Our goal is to promote a greater understanding of how real estate financial markets work. To do this we present the material based on a foundation of economic and finance theories.

We want to provide a real estate finance textbook that is comparable to those in the area of managerial finance by basing it on sound economic and finance principles. A foundation of theory will allow you to understand the structure of the real estate finance market as it changes throughout your lifetime. Although the institutions, regulations, and structure of the real estate finance market will continue to change, the theoretical underpinnings on which economic behavior takes place will not. We feel strongly that “education is what remains after you have forgotten the facts”.

We not only provide you with a solid foundation for which to examine and understand the real estate financial market, we also introduce some of the more important results of empirical research done by experts in that market. In addition to presenting the questions, so to speak, we also attempt to provide some answers.

Even with this emphasis on economic and financial theory, we do not neglect the descriptive approach that is necessary to understand the structure of real estate finance markets. You will gain an understanding of major institutions and the roles they play in the real estate finance market. You will learn about the major federal legislation that impacts real estate finance, particularly the residential area. And you will understand how law shapes and affects the form of the real estate finance market.

Topic Coverage

The textbook is divided into four parts. The first part (Chapters 1 through 3) deals with financial markets in general, finance theory, and the application of finance theory to real estate. Here, we lay down the foundation for understanding how financial markets operate. We discuss the primary tools of financial analysis and show, in general, how they apply to real estate. For the second edition we have made the chapters more focused by moving the discussion of duration in the appendix from Chapter 2 to Chapter 4. Also, in Chapter 3, we provide a general discussion of cash flow analysis/financial leverage and delay the actual number crunching until Chapter 15. We also have moved Appendix A of Chapter 3 to the end of Chapter 4. Part one of the text is designed to give the student a basic understanding of finance theory as it applies to real estate and mortgage markets.

Part two of the book deals with issues related to residential real estate finance. After developing the history of real estate finance, we investigate alternative mortgage instruments and the effect of terms of financing on property values. Next, we look at federal housing policies and their impact on the residential real estate market. New for the second edition are the presentation of fixed-rate mortgage mechanics in Chapter 4, and an expanded discussion of adjustable rate mortgages in Chapters 5 and 6. Also, Chapter 6 provides an analysis of the mortgage refinancing decision. Chapter 7 updates the empirical literature on the valuation of creative financing and is expanded to include discussion and illustration of buydown and wraparound financing. Chapter 9 updates the research on discrimination in mortgage lending and other sensitive issues such as disclosure and fair housing. Two chapters are devoted to the secondary mortgage market, one to a description of this market and one to issues related to the valuation of securities created in the secondary mortgage market. We complete the second part of the textbook with three chapters on residential loan underwriting, loan processing and origination, and mortgage insurance.

The third part of the textbook deals with commercial real estate finance. We present issues concerning the use of debt (leverage) in financing properties, the impact of tax laws on financing commercial properties, and sources of commercial real estate financing. In this section we also discuss various methods of financing commercial properties, including equity participation loans and sale lease-back agreements.

The final chapter in this section deals with the different ownership structures that are available for holding commercial real estate. For the second edition, we have expanded the discussion of financial leverage and cash flow analysis in Chapter 15. Chapter 16 updates the laws dealing with the income taxation of real estate investment, and includes a new section on installment sale financing.

The fourth and final part deals with special topics. In one chapter we discuss real estate in a portfolio context, and in the last two chapters, we present material related to lender legal liability, ethics and fraud in real estate finance, and agency problems in real estate finance.

Throughout the second edition we provide updated tables and exhibits. We also have updated the references of empirical work by authors who have made valuable contributions to the understanding of the topics discussed in the textbook.

We have provided software with each text so that you may be able to explore many of the complicated models of real estate finance. The software is user-friendly and will help you understand many of the financial relationships of the models, and facilitate solving some of the homework problems at the end of the chapters. The problems available to you on the disk are identified by a disk logo in the margin of the text. Please see Appendix 3.

Background of the Student

The textbook has been written under the assumption that you, the reader, have some foundation in economics and finance. However, we present the material in a manner that those without such a background can follow along at a moderate pace. If you do not have a background in finance, we suggest that you first consult the appendix on the time value of money at the end of the book. Unlike many other textbooks on real estate finance, we do not introduce this material in the body of the text. Nevertheless, an understanding of the discounting and compounding process is necessary before you begin reading. If you have a background in finance, you can begin with Chapter 1. If not, read the appendix and ask your instructor for some review material that may strengthen your understanding of the discounting and compounding process.

Finally, we would like to continually develop this textbook and make it better with each edition. If you have any comments or would like to make suggestions that would improve it for future editions, please write us at

Terrence M. Clauretie and G. Stacy Sirmans, c/o Real Estate Editor, Prentice Hall, Upper Saddle River, New Jersey 07458.

Acknowledgments

We would like to acknowledge, with grateful appreciation, the contributions of several colleagues to the development of this textbook. From inception through completion, their suggestions were invaluable in improving the presentation of the material. We, of course, are responsible for the final version, so if there are any errors or omissions, they are our responsibility only. Those who helped develop this textbook and to whom we owe our gratitude include: Robert J. Aalberts, University of Nevada, Las Vegas; Wayne Archer, University of Florida; J'Noel Ball, Northeastern University; Jerome Dasso, University of Oregon-Emeritus; Patrick Egger, PriMerit Bank, Las Vegas; Donald Johnson, College for Financial Planning; Will McIntosh, Prudential Realty Group; Theron Nelson, University of North Dakota; Philip Rushing, University of Illinois; Jay Sa-Aadu, University of Iowa; James Shilling, University of Wisconsin; C.F. Sirmans, University of Connecticut; Rock Tarantello, Tarantello and Associates.

CONTENTS

PREFACE	xv
Goals and Foundation of the Text	xv
Topic Coverage	xv
Background of the Student	xvi
Acknowledgments	xvi

PART ONE *Finance and Real Estate* 1

CHAPTER 1 *Real Estate Finance: An Overview* 2

The Nature of Real Estate Finance	2
What Is Finance?	3
What Is Real Estate Finance?	3
What Is the Environment of Real Estate Finance?	4
A Closer Look at Financial Intermediaries and Financial Markets	6
Commercial Banks	7
Thrift Institutions	7
Investment Companies	7
Insurance Companies	7
Pension Funds	8
Direct Financing	8
Secondary Mortgage Market	8
Primary and Secondary Markets	8
Money and Capital Markets	8
Organization of the Book	9

CHAPTER 2 *Money, Credit, and the Determination of Interest Rates* 15

The General Level of Interest Rates	15
Money, the Economy, and Inflation	17
The Equation of Exchange	17
The Fisher Equation	18
The Gibson Paradox	18
Liquidity, Income, and Price-anticipation Effects	19
The Determination of Interest Rates on Specific Credit Market Instruments	21
Default Risk	21
Callability Risk	22
Maturity Risk	22
Marketability Risk or Liquidity Risk	23

The Yield Curve and Future Interest Rates	23
Liquidity Premium Theory	24
Market Segmentation Theory	24
Expectations Theory	25

CHAPTER 3 *Finance Theory and Real Estate* 29

Asset Valuation	29
Amount of After-tax Cash Flows	30
Timing of Cash Flows	30
Risk of Cash Flows	30
Role of Risk in Valuation	33
The Theory of Financial Leverage and Optimal Capital Structure	33
Leverage and Value	34
Irrelevance of Capital Structure	34
Options and Real Estate Finance	35
Definition of Options	35
Examples of Options in Real Estate Finance	36
The Theory of Financial Intermediation	38
Portfolio Theory	39
Efficient Market Theory	40
Agency Theory	41

PART TWO

Residential Real Estate Finance 45

CHAPTER 4 *The Early History of Residential Finance and Creation of the Fixed Rate Mortgage* 46

Pre-American Developments	46
Roman Law	46
German Influence	47
American Residential Finance: Early American History Through the Depression Years	48
Mechanics of the Fixed-rate Mortgage (FRM)	51
The Mortgage Payment	51
Amortization of the Mortgage	52
The Outstanding Balance of the Mortgage	53
The Effective Cost of the Mortgage	53
Calculating the APR	54
Effective Cost and Early Repayment	54
The Effect Cost of Prepayment Penalties	55
Fixed-rate mortgages and Interest Rate Risk	55

APPENDIX A Elements of the Discounted Cash Flow Model of Valuation 59

APPENDIX B Maturity, Duration, and the Interest Rate Risk of Mortgages 60

CHAPTER 5 *Postwar Residential Finance* 64

Background	64
The 1950s: A Decade of Stability	66
The 1960s: Creeping Inflation, Disintermediation, and the Rise of the Secondary Mortgage Market	68
The 1970s: Problems of the Fixed-rate Mortgage in an Inflationary Environment	70
Demand Problems	71

Supply Problems	72
Introduction of Alternative Mortgage Instruments	73
Continued Growth of the Secondary Market	74
The 1980s: Deregulation, the Growth of Alternative Mortgage Instruments, and the Thrift Crises	75
Interest Rate Risk Increases: Value of Assumption Option Becomes an Issue	75
The Era of Creative Financing	78
Widespread Savings and Loan Failures	82
Post-FIRREA Regulatory Structure of the Mortgage Market	89

CHAPTER 6 *Alternative Mortgage Instruments* 98

Problems of Supply: Interest-rate Risk and the Adjustable Rate Mortgage	98
Description of ARMs	99
Comparison of ARM Performance	103
Pricing Adjustable Rate Mortgages	105
ARM Share of the Mortgage Market	111
Problems of Demand: The Tilt Effect and the Graduated Payment Mortgage	112
Simultaneously Solving the Problems of Supply and Demand: The Price Level Adjusted Mortgage	116
Other Alternative Mortgage Instruments	120
Shared Appreciation Mortgage (SAM)	120
Reverse Annuity Mortgage (RAM)	121
Pledged-account Mortgage	123
Alternative Mortgage Instruments and the Tax Deductibility of Interest Payments	124
Mortgage Refinancing	125
Refinancing Owner-occupied Property	125
APPENDIX A Computing Initial Payment on a GPM Loan	132

CHAPTER 7 *Financing and Property Values* 134

Creative Financing	135
FHA/VA Discount Points	135
Assumable Loans	137
Other Creative Financing: Buy-downs, Wraparound Loans, and Land Contracts	142
Implications for Appraisal Practices and Market Studies	145
Mortgage Revenue Bonds	145
Role of State Housing Finance Authorities (HFA)	146
MRBs, House Prices, and Wealth Distribution	147

CHAPTER 8 *Federal Housing Policies: Part I* 155

Housing Affordability	155
Economic Support of Financial Institutions	155
Mortgage Insurance, Direct Grants, and Subsidies	158
Income Tax Provisions	161
Efficiency and Stability	162
Efficient Markets	162
Deregulation	162
Competition in the Real Estate Finance Market	163
Interstate Land Sales Full Disclosure Act (ILSFDA, 1968)	163
Consumer Credit Protection Act (Truth-in-Lending Law, 1968)	164
Real Estate Settlement Procedures Act (RESPA, 1974)	169
APPENDIX A Major Federal Legislation and Executive Orders Authorizing HUD Programs	176

APPENDIX B ARM Examples 181

Variable-rate Mortgage Sample 181

Rescission Model Form (General) 183

CHAPTER 9 *Federal Housing Policies: Part II* 185

Equity in Housing 185

Fair Housing Act (1968) 185

Equal Credit Opportunity Act (ECOA, 1974) 187

Home Mortgage Disclosure Act (HMDA, 1975) and Community Reinvestment Act (CRA, 1978) 191

Fair Housing Amendments Act of 1988 194

APPENDIX A Summary of Major Federal Legislation Affecting Real Estate 198

CHAPTER 10 *The Secondary Mortgage Market* 202

Nature of Secondary Market 202

What Is a Secondary Mortgage Market? 202

Why Does the Secondary Mortgage Market Exist? 203

Mortgage-related Securities (MRSs) 205

Characteristics of Mortgage-related Securities 205

Types of Mortgage-related Securities 205

Swaps 210

Tax and Accounting Issues of Mortgage-related Securities 211

Secondary Mortgage Market Agencies and Firms 212

Federal National Mortgage Association (FNMA) 213

Government National Mortgage Association (GNMA) 214

Federal Home Loan Mortgage Corporation (FHLMC) 216

Federal Credit Agencies 219

State and Local Credit Agencies 220

Private Firms 220

Developing a Secondary Mortgage Market: a Year-by-year Summary 221

The Flow of Funds Through the Primary and Secondary Mortgage Markets 224

Regulation of Government Sponsored Enterprises (GSEs) 225

CHAPTER 11 *Valuation of Mortgage Securities* 232

Valuation of Traditional Debt Securities 233

Mortgage-related Securities 235

Pass-throughs 236

Senior/Subordinated Pass-throughs 249

Mortgage-backed Bonds 250

Collateralized Mortgage Obligations 252

Interest-only and Principal-only Strips 258

Servicing Rights 263

Data on Mortgage Pools 265

Value Creation in Mortgage-related Securities 266

CHAPTER 12 *Controlling Default Risk Through Borrower Qualification, Loan Underwriting, and Contractual Relationships* 271

Borrower Qualification and Loan Underwriting 271

Theories of Default 272

Characteristics of the Property 274

Characteristics of the Borrower	274
HUD/FHA Guidelines	275
VA Borrower Qualification	277
Conforming Conventional Loan Qualification	278
Borrower Qualification Comparison	278
Contractual Relationships in Residential Loans	280
Promissory Notes	281
Deed-of-trust or Trust Deeds	284
 CHAPTER 13	 <i>Loan Origination, Processing, and Closing</i>
Loan Processing	297
Property Appraisal	297
Analysis of Application	301
Submission for Insurance	302
Loan Closing	303
Mortgage Banking	304
Sources of Funds	305
Revenues	306
 CHAPTER 14	 <i>Mortgage Default Insurance, Foreclosure, and Title Insurance</i>
Mortgage Default Insurance	340
Government Insurance	341
Private Mortgage Insurance	345
Comparison of Government and Private Mortgage Insurance Programs	349
State Foreclosure Laws	350
Foreclosure	350
Default Risk, Mortgage Insurance, and State Foreclosure Laws	352
Title Insurance	355
APPENDIX A	FHA GPM Program
	359

PART THREE

Commercial Real Estate Finance

CHAPTER 15	<i>Value, Leverage, and Capital Structure</i>	362
Valuation of Real Estate Investments	363	
General Principles	363	
Financial Leverage	364	
Debt and Returns to Equity: A Real Estate Example	367	
Basic Assumptions	369	
Annual Operating Cash Flows	369	
Sale of Property	371	
Value of the Cash Flows	371	
Arguments Against an Optimal Capital Structure	375	
Resolution of the Modigliani–Miller Proposition with the Use of Debt Financing for Real Estate Properties	377	
Some Practical Considerations in the Use of Debt to Finance Real Estate Properties	378	
Real Estate Investing in the Real World	380	

CHAPTER 16 *Federal Taxation and Real Estate Finance* 385

Classification of Real Property 387

Tax Shelters 388

Taxes, Cash Flows, and Discount Rates: Some Examples 388

Real Estate Tax Regulations 392

Definition of Income 393

Determination of Taxes 402

Effect of Tax Reform Act of 1986 on Real Estate Investment 409

Tax-deferred Exchanges of Real Estate Properties 411

Basic Requirements 411

Three-party Exchanges 412

Delayed Exchanges 412

Boot 412

Technical Requirements 412

Installment Sale Financing 413

APPENDIX A Tax Preference Items for Alternative Minimum Tax 420**CHAPTER 17** *Sources of Funds for Commercial Real Estate Properties* 421

Debt Financing of Real Estate Properties 421

Estimates of the Stock of Debt 421

Flow of Debt Funds 423

A Closer Look at Commercial Collateralized Mortgage Obligations (CMOs) 426

Recent Trends in Debt Financing 428

Equity Financing of Real Estate Properties 429

Equity Financing Through Securities 430

Institutional Investors 430

Public/Private Partnerships 435

Finding Sources of Financing 436

CHAPTER 18 *Acquisition, Development, and Construction Financing* 441

Acquisition 442

The Land Loan 442

Institutional Lenders 443

Seller Accommodation 444

Development 446

Construction 447

Underwriting Construction Loans 448

The Construction Loan Commitment 448

Construction Loan Provisions 449

Construction Loan Administration 451

Determination of Loan Amount and Disbursements 452

CHAPTER 19 *Permanent Financing of Commercial Real Estate Properties* 467

Long-term, Fixed-rate Loans 467

Alternatives to Standard Long-term Fixed-rate Loans 468

Equity Participation Loans 468

Leases and Sale-leaseback Agreements 475

Ground Lease Mortgages 485

Credit-based Financing 485

APPENDIX A Supporting Schedules for Example 2 489

CHAPTER 20 *Ownership Structures for Financing and Holding Real Estate* 490

Forms of Real Estate Ownership 491

Sole Ownership 491

Corporate Form of Ownership 492

Partnerships 493

Real Estate Investment Trusts 494

A Closer Look at Real Estate Limited Partnerships and Real Estate Investment Trusts 494

Real Estate Limited Partnerships 494

Real Estate Investment Trusts 497

A Closer Look at Corporate Versus Partnership Form of Ownership 503

PART FOUR

Special Topics in Real Estate Finance

CHAPTER 21 *Real Estate in a Portfolio Context* 510

The Nature of Diversification 510

Benefits of Diversification 515

Theories of Asset Pricing 518

Real Estate in a Mixed Asset Portfolio 521

The Problem with Appraised Values 522

Sources of Real Estate Data 522

The Diversification Benefits of Real Estate 524

Within-real-estate Diversification 527

Diversification by Property Type 527

Geographic Diversification 528

Other Methods of Diversification 529

APPENDIX A The Capital Asset Pricing Model Derived from Combining an Asset with the Existing Market Portfolio 532

CHAPTER 22 *Liability, Agency Problems, Fraud, and Ethics in Real Estate Finance* 534

Lenders' Legal Liability 534

Hazardous Waste Disposal 535

April 1992 EPA Regulation 540

Recent Court Decision 541

Risk Management for Lender Liability 541

Lenders and the Drug War 542

Liability from Lender/Borrower Relationship 543

Other Theories of Lender Liability 547

Liability to Third Parties: Bankruptcy and Agency Law 550

Bankruptcy and Agency Costs 551

Bankruptcy Law and the "Cramdown" Process 551

Practical Considerations 552

Ethics, Fraud, and Agency Costs 553

Agency Relationships and Mortgage Insurance 554

Agency Relationships and Recent Thrift Failures 555

APPENDIX 1 *A Refresher Course on the Time Value of Money and Related Concepts* 560

Discounting and Compounding (Coming and Going) 560

Discounting and Compounding Annuities 563

Discounting and Compounding at Intervals Other than One Year 566

Concluding Remarks 567

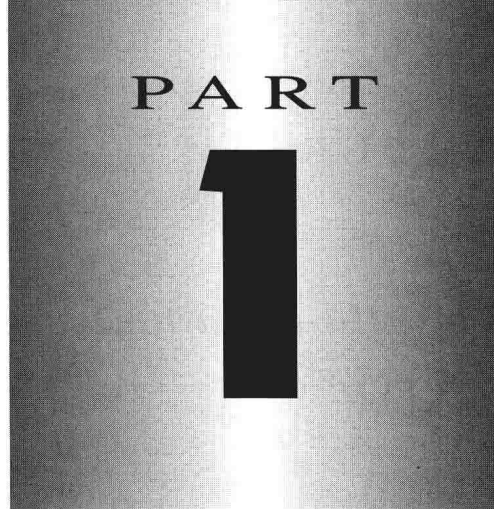
APPENDIX 2 *Acronym List* 618

APPENDIX 3 *Software to Accompany Real Estate Finance* 620

GLOSSARY 628

NAME INDEX 650

SUBJECT INDEX 652



Finance and Real Estate

The three chapters in Part One of the text set the stage for applying financial economics to real estate. Here, the text discusses the nature of finance and economics and describes financial markets with reference to those institutions that play a role in real estate finance. It also looks at money, credit, and interest rates. Interest rates, as you may expect, play an integral role in real estate finance. The determination of both the general level of interest rates and those on particular debt securities is presented. Finally, in this section we present the major finance concepts and principles and show how they apply to real estate markets.

Real Estate Finance: An Overview

LEARNING OBJECTIVES

After reading this chapter, you should understand the relationship between finance and real estate. You also should understand how financial markets work in terms of the flow of funds from those with credit to lend to those with a demand for borrowed funds. You also learn which major financial institutions direct the flow of funds.

INTRODUCTION

Each chapter in this textbook tackles a different subject in real estate finance. The text is by no means exhaustive. In fact, it is quite modest in its coverage. Be aware that when you have completed this course, your knowledge of real estate finance will be greater than it is now but still lacking in many respects. You can gain additional knowledge of real estate finance from more in-depth study of the various subjects in this textbook, as well as from real-world experiences. If your professional goals direct you to the world of real estate finance, expect to gain much knowledge through your day-to-day experiences.

With this in mind, you will nonetheless need to get as much from this text as possible. To accomplish this, you need to begin in this chapter by understanding the framework of real estate finance—what real estate finance is and the environment within which it takes place. Chapter by chapter, you will learn about individual real estate finance topics. As each topic is introduced, we will attempt to place it in the framework of general finance models. You should understand that real estate finance subjects are applications of more general finance principles. We tend to focus as much on finance principles and concepts as on descriptions of real estate finance institutions. The application of general finance principles to real estate is discussed in detail in Chapter 3. For now, we discuss what real estate finance is all about.

THE NATURE OF REAL ESTATE FINANCE

The nature of real estate finance can be framed by three questions:

- What is finance?
- What is real estate finance?
- What is the environment of real estate finance?

What Is Finance?

Finance is the study of the process, institutions, markets, and instruments used to transfer money and credit between individuals, businesses, and governments. Finance is applied economics. Economics is the study of the allocation of resources for the purpose of producing goods and services for various members of society. Finance is the study of how the flow of money and credit facilitates that production and allocation. Although finance can be seen as a segment of the more general field of economics, there are differences in the focus of the two fields of study. This is not to say that finance is different or unrelated to economics; it is not. It does have a different focus, however, and utilizes certain concepts more than the traditional study of economics does. There are several ways in which the focus of finance differs from that of economics.

If you have had a course in economics and one in finance, you can appreciate how the two subjects differ in their approach. First, in the theory of the firm, microeconomics focuses on the profit maximizing assumption. Policies of the firm are geared toward maximizing profits within the constraints of the structure of the industry. In finance, at least managerial finance, the focus is on maximizing the value of equity interest of owners. This involves a lot more than maximizing the profits of the firm. In fact, a myopic view of maximizing profits could lead to less than a maximization of the value of the firm's equity position. Thus, finance is concerned with issues such as the character of securities (debt or equity) issued by the firm in order to finance assets. Seldom, if ever, in a microeconomics course does one consider the character of the securities issued by firms.

Second, the focus of finance is more on the intertemporal transfer of funds between individuals. This is another way of saying that finance considers the time value of money and the implications for interest rates on the time value of money and financing decisions. Finance is concerned with the valuation of assets, and the valuation process explicitly considers the timing of the cash flows associated with the ownership of an asset.

Third—and this is also related to the valuation of an asset—finance focuses on cash flows, not profits. Cash flows are important because they can be either reinvested in other income-earning assets, or they can reduce expense-costing liabilities. Again, microeconomics focuses on profits.

Finally, the study of finance makes extensive use of the concept of risk. **Risk** is the possibility (and associated probabilities) that the actual result (return on investment, for example) will differ from the expected outcome. Finance considers the effect of risk on the valuation (the cash flows) of an asset. It also analyzes the risk–return tradeoff, the general principle that states that investors require additional expected returns for taking on additional risk.

These are just several ways in which the focus of the study of finance differs from that of economics. Again, finance can be considered a subfield of economics. Yet, most agree, the focus of finance is different from that of economics.

What Is Real Estate Finance?

There are several subdisciplines within finance, including:

- Managerial or corporate finance
- Investment and securities (including real estate) analysis and portfolio theory
- Financial institutions and financial services
- Personal finance
- Insurance and risk management
- Real estate finance

Each of the subdisciplines deals with a different area of finance. Real estate finance is a very broad category and includes the study of the institutions, markets, and instruments used to transfer money and credit for the purpose of developing or acquiring real property. Real property, in turn, is the rights, powers, and privileges associated with the use of real estate. Real estate is land and all fixed and immovable improvements on it. Real estate finance would include, but not be limited to, a study of:

- Owner-occupied residential property
- Rental residential property
- Terms of residential property leases
- Appraisal of residential properties
- Loans (mortgages) on residential properties
- Sales and exchange of residential properties
- Economics of brokerage of residential properties
- Markets for exchange of residential mortgages
- Valuation of residential mortgages
- Commercial properties, including urban office buildings, suburban office buildings, hotels/motels, retirement communities, recreation facilities, mini-warehouses, warehouses, apartment complexes, industrial facilities, and retail trade facilities
- Loans on commercial properties
- Markets for the exchange of commercial property loans
- Valuation of loans on commercial properties
- Appraisal of commercial properties
- Investment in commercial properties
- Portfolios of real estate investments
- Real estate taxation issues
- Law and real estate lending

Since real property includes not only real estate, but all of the rights and privileges of the use of real estate that can be transferred, the study of real estate finance does not have a narrow focus.

What Is the Environment of Real Estate Finance?

Financial instruments are used to transfer money and credit for the purpose of developing and acquiring real property. The institutions which create and purchase those instruments and the markets within which they are transferred constitute the environment of real estate finance. In essence, the environment is the financial system of the United States. This portion of the financial system is not insignificant. Hartzell, Pittman and Downs estimate the value of commercial real estate in the United States in 1989 to be \$2.43 trillion. This constitutes 23.7 percent of the total value of the traditional institutional investment asset classes. This is less than corporate equity and government securities, but more than corporate debt. They estimate the value of residential property to be \$8.7 trillion.¹

In considering the economy as a whole, there is an identity called the **savings–investment cycle**. The identity indicates that, by definition, the amount of savings equals the total amount that is invested. Table 1–1 shows the gross savings and investment in the United States for 1993. Savings are identified by three groups: individuals, businesses, and government. Not surprisingly, the government's savings in 1993 was negative. Twenty-four percent of the total savings came from individuals. Businesses saved \$97.5 billion in undistributed profits (retained earnings) and another \$712.3 billion of savings resulted from their depreciation allowance. The total savings of \$787.4 billion resulted in an equal amount of "investment." This does not mean