

REAL ESTATE FINANCE

C.F. SIRMANS

SECOND EDITION



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PREFACE

Like the first edition, this book is an introduction to the real estate financing decision. It is written for the beginner in real estate finance, whether a practicing professional (such as a broker, investor, developer, lender, or appraiser) or a student in the formal classroom. Practicing professionals will find the material useful for understanding the myriad financing methods and techniques developed in recent years. Students who have had an introductory real estate course (or professionals with the equivalent) will be adequately prepared. The only mathematical techniques used are the fundamental concepts of compound interest and present value. Readers without a background in these areas should study Chapter 2 in detail until they master it.

In recent years there have been numerous changes in markets for real estate investments. The entrance of new lenders and investors, the securitization of mortgages, governments' changing role and influence, and other factors have brought radical changes, particularly to the area of real estate finance. Although no book can discuss all these influences and changes, we outline recent financing developments.

All financial decision makers face two main decisions: how much to invest and what to invest in, and how to finance those investments. This book primarily addresses in detail the latter decision: how to finance real estate investments. Our view is that the best way to examine this key financial decision is by first studying how the financing-lending decision is made. Certain major concepts must be remembered. In any financing-lending decision there are two major participants: a borrower and a lender. For a successful transaction to occur, the criteria and objectives of both parties must be met.

There are various ways the material on real estate financing could have been discussed. Since there are two primary decision makers, the borrower and the lender, the financing decision could have been analyzed from one party's per-

spective, at the expense of the other's. But obviously both perspectives must be understood to reach final agreement. Alternatively, the financing of various types of real estate could have been analyzed, such as single-family houses and income properties like apartments, shopping centers, and office buildings.

If the material had been organized in this fashion, the fundamental principles would have had to be restated over and over and over. Therefore, readers familiar with real estate finance books will find that this book significantly departs from standard organization. For example, there are no separate chapters on the various financial institutions. The lender's perspective is analyzed throughout the discussion because, in my opinion, the recent deregulation of institutions has done away with (and will continue to do so) the historical distinctions between lenders.

Part One introduces the fundamental concepts of making the financing decision from both the borrower's and the lender's perspectives. Part Two discusses various alternative financing methods and techniques. Thus, the discussion about varying-rate mortgages, for example, is concerned with the additional problems (such as tax), legal or financial, the techniques create for both the borrower and the lender. The applications of the techniques to various types of real estate, such as housing or income properties, are also illustrated. The important emphasis is thus the financing methods and techniques rather than the type of real estate. Most of the financing techniques are applicable to all types of real estate investments.

Part Three discusses real estate finance decision making. The real estate financing process involves a variety of decision situations such as the optimal combination of debt and equity, the refinancing decision, pricing mortgage loans, and managing a mortgage portfolio.

OVERVIEW

The major objectives in this book are:

- 1 To provide the basic background and information for undertaking the borrowing-lending decision
- 2 To discuss in detail the major types of financing techniques and methods that are being used in the real estate marketplace

To accomplish these goals, the book is divided into three parts. Part One, "The Financing Decision," introduces readers to the major principles for understanding the decision-making process in mortgage underwriting and borrowing. In Chapter 1, the borrower-lender perspectives are blended into the financing process outlined to provide a survey of the entire mortgage market. This market represents the composite response of borrowers and lenders in determining interest rates and allocating mortgage funds. Recent developments in the major segments of the mortgage market are also discussed.

Chapter 2 discusses in detail how mortgages "work." The mechanics of the traditional fixed-rate mortgage are stressed, and coverage includes computation

of mortgage payments, amortization schedules, and effective borrowing costs (yields). Chapter 3 is an in-depth look at the legal environment surrounding the financing decision.

Two major areas of concern to the lender in analyzing the risk of a loan are the borrower's willingness and ability to repay the loan and the value of the collateral securing the debt. Chapter 4 discusses borrower analysis in the financing decision. Chapters 5 and 6 discuss techniques for analyzing the value of the property. The borrower-equity investor is obviously interested in the tax effects of the financing decision. Chapter 5 details the traditional before-tax valuation methods; Chapter 6 covers the after-tax valuation decision-making techniques.

Part Two expands the basics of Part One by emphasizing and examining in detail the various alternative financing methods and techniques that have been developed by (and widely used in) the market in response to the numerous decision-making situations and problems borrowers and lenders face. Fortunately, for discussion, the methods can be classified into major categories. (As you study these techniques, remember that they are not exclusive.) Each method is analyzed according to the following questions: What are the unique property-analysis problems for the borrower? How does the method work, and when would it be used? What risk aspects are created for the borrower-lender? Each chapter has detailed examples of the various methods from both the borrower's and the lender's viewpoints. The application of the various methods to numerous types of real estate, such as single-family houses, apartments, office buildings, vacant land, and shipping centers, is also illustrated.

Chapter 7 analyzes mortgages with varying interest rates. Chapter 8 discusses the various types of government-sponsored financing methods and programs for both single-family homes and income properties. Chapter 9 covers various types of "wraparound" financing methods. Chapter 10 illustrates the popular seller financing method: installment sales. Chapters 11 and 12 analyze construction and land development financing, respectively.

Chapter 13 discusses income and equity participation mortgages. Chapter 14 analyzes the use of joint ventures in financing real estate projects. Chapter 15 illustrates the increasingly popular syndicate method to raise equity capital. Chapter 16 details leasing and sale-leaseback alternative financing methods. Chapter 17 surveys other financing methods that have been developed, such as buy down mortgages.

Chapter 18 discusses the borrower's perspective, and Chapter 19 analyzes some of the decisions that lenders must make in the real estate financing process.

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C. F. Sirmans

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THE FINANCING DECISION

Part One represents the basic principles to follow for making real estate financing decisions. We analyze the fundamentals of the financing decision from the perspective of both the lender and the borrower. To correctly understand the *financing decision*, we must examine how the real estate investor makes the *investment decision*—whether or not to buy a particular real estate project. From the lender's perspective, the loan is an investment. The loan represents the lender's claims (legal, cash flow, etc.) against the real estate and/or the borrower. In some types of loans, the income-producing ability and value of the collateral (the real estate) may be of prime importance. With other types of mortgages, such as for owner-occupied single-family houses, the borrower's ability and willingness to repay the loan are major concerns.

Chapter 1 introduces the financing process through an overview of the mortgage market. How does the market determine the interest rates? What are the sources of mortgage debt? What recent developments have occurred in the mortgage markets? Chapter 2 analyzes the mechanics of mortgages and discusses in detail the traditional fixed-rate mortgage. Once the reader understands these fundamentals, the alternative financing methods and techniques in Part Two are relatively easy to analyze.

Chapter 3 explores the legal environment of financing. The subject of property rights in real estate is complex and plays a major role in the decision-making process of both the lender and the borrower.

Chapter 4 analyzes the borrower, whose financial position strongly affects the financing decision. Chapters 5 and 6 consider the property that serves as collateral for mortgage loans. Chapter 5 covers property valuation on a before-tax

basis. Chapter 6 discusses the effects of taxes on financing and investment decisions and the use of discounted cash flow models for property analysis.

Thus, Part One provides the fundamental legal mechanics, borrower- and property-analysis skills, and tax understanding necessary for making the real estate financing decision. Only by considering these fundamental concepts can the decision maker, whether borrower or lender, make correct decisions.

THE FINANCING ENVIRONMENT

BASIC FINANCING CONCEPTS AND DEFINITIONS

Making Financing Decisions

Risk Analysis

The Risk-Return Trade-Off

THE REAL ESTATE FINANCE INDUSTRY

Financial Markets

Mortgage Market

Mortgage Submarkets

THE FINANCING PROCESS

The Borrowing Decision

The Mortgage Loan Application

The Environment for Financing Decisions

Finance Decision Making

Postorigination Decisions

RECENT DEVELOPMENTS IN REAL ESTATE FINANCING

Changing Attitudes toward Inflation

Alternative Mortgage Instruments

Deregulation of Lenders

Changes in Tax Laws

Changes in Government Policies

Developments in the Secondary Market

Changes in Commitment Policies

Changes in Real Estate Markets

SUMMARY
QUESTIONS
PROBLEMS
REFERENCES

Real estate is widely used as security for credit. Most real estate transactions involve large sums of capital. This capital typically comes from two sources: a lender that advances borrowed funds in exchange for future payments, and an equity investor (borrower) that provides the remainder of the capital. Real estate finance is an understanding of how to make decisions concerning the use of capital in a real estate investment of any type, from a single-family house to such income-producing property as an office building or shopping center.

This chapter introduces the environment in which these financing decisions are made by providing an overview for each aspect of financing discussed in detail in later chapters. First, basic definitions and concepts related to financing are discussed. The industry that deals with borrowing and lending, the mortgage market, is then covered. The third section covers the financing process—how the borrower and lender arrive at a decision to enter into a mortgage contract. The last section previews several major recent developments in real estate financing.

BASIC FINANCING CONCEPTS AND DEFINITIONS

Generally, financing can be defined as the *process* of borrowing (raising) or lending (providing) funds or capital. Financing is also the *system* that includes the granting of credit and the making of investments. Financing thus involves *making various decisions*, such as how much and what type of capital to use in a real estate investment.

A real estate investment deals with the commodity of capital. There are two types of capital: debt and venture (equity). The most prevalent practice is to combine a large portion of debt capital (mortgage money) with a smaller portion of venture capital (equity money). The investor undertakes an investment by using some personal equity and borrowing funds to complete the total capital required. The logic of the financial world indicates that both debt and equity capital are employed when and where they offer reasonable prospects for profitable returns. The rate of return must be expected to be more attractive than probable yields from other available capital uses.

The financing process includes a transaction between two participants: a borrower and a lender; both participants have objectives, constraints, and goals for entering into the transaction. This transaction involves a legal instrument commonly called the mortgage.

The term *mortgage* refers to both the *instrument* that pledges real estate as security for an obligation and the *process* of pledging real estate as security. The mortgage process is a transfer (or pledge) of real estate (property rights) by a debtor-borrower-mortgagor to a creditor-lender-mortgagee for the performance

of an obligation. The obligation is normally the payment of a debt, evidenced by the mortgagor's promissory note. In some states and in some financing situations, the mortgage instrument is called by a different name, such as a trust deed or a purchase money mortgage, but functionally the instruments all serve the same purpose—to pledge real estate as security. Note that the lender is interested in the pledge of both the *property rights* and the *physical* real estate (land and improvements). These factors create a complex legal and economic environment for financial decision making.

Making Financing Decisions

Financing decisions are made by comparing costs and benefits. For example, suppose you are a mortgage lender and I promise to pay you \$515.47 each month for 20 years (240 months) if you will give (loan) me \$50,000 today. How would you analyze this situation? How would you make the decision? For all practical purposes, this situation is an example of the type of decision facing the lender in the mortgage market. It is typically called the *lending decision*.

On the other hand, we can take the borrower's viewpoint. How would the borrower decide whether to borrow \$50,000 with the payment of \$515.47 each month for 240 months? What factors would enter into the *borrowing decision*?

An important concept to understand is that both participants (borrower and lender) make decisions by comparing the costs and benefits associated with the decision. Returning to our simple example, note that the cost, from the lender's viewpoint, is \$50,000. The benefits to the lender are the payments of \$515.47 each month. But these benefits (cash inflows) take place over time. Thus the question arises of how to convert these future benefits into their present worth. The problem is even more complicated since the lender may not be certain that the borrower will honor the promise to pay each month. In addition, the borrower may pledge real estate. In this case you have to consider both the promise and the value of the real estate as security for the debt. In sum, risk is associated with the financing decision.

Risk Analysis

Real estate financing decisions are made in a risky environment. In general, *risk* refers to the possibility that what is expected to occur may not occur. In other words, the actual outcome may be different from what was expected. The lender and the borrower must consider several *types of risk* in making financing decisions.

Inflation (Purchasing Power) Risk One type of risk associated with long-term investments is that *inflation*, a rise in all prices, may occur. As a result, the lender would be paid back in "cheaper" dollars. For example, suppose I borrow \$50,000 for 1 year at an interest rate of 12 percent. The amount of interest that I

pay is \$6,000 (\$50,000 times 0.12). Suppose that inflation during the year is 12 percent. What is the lender's "real" rate of return? It is zero. The lender earned \$6,000, but in terms of purchasing power the lender is no better off. Thus the loan is essentially at a zero interest rate. Obviously no lender (investor) would enter into any investment situation with such an expected outcome. Investors must deal both with *expected* inflation and *unexpected* inflation.

Default Risk In any financing decision there exists the possibility that the lender (investor) will not be able to obtain repayment of the loan. This possibility is referred to as *default risk*—the borrower simply is unable (or refuses) to repay the debt. If the borrower has pledged real estate as security, the lender then has the right to sell property to obtain payment of the debt. However, this creates more problems and involves more decisions. For example, suppose the sale of the property does not bring enough money to repay the debt.

Obviously, before entering into an investment, the lender will analyze both the borrower's ability and willingness to repay and the property's suitability as security. The *value* of the real estate relative to the amount of debt is an extremely important aspect of default risk analysis.

Business Risk Business risk concerns unexpected changes in the overall investment environment. For example, the real estate market's attitude to a particular property, or to real estate in general, may change, in turn influencing the income-producing ability of a property or the situation of the borrower. The result is declining property values. Numerous other factors can alter the business environment in which the financing decision is made. For example, the government could change the legal or regulatory constraints on the lender, the borrower, or the real estate serving as security.

Liquidity Risk Real estate financing decisions historically have dealt with long-term contracts. An investor in such a contract faces potential *liquidity* risk should it be necessary to dispose of the investment. Real estate, in general, is viewed as having relatively high liquidity risk since it cannot be converted to cash on short notice. A mortgage, as an investment, can also have liquidity problems. However, in the last several decades the mortgage market has developed a fairly efficient system of buying and selling existing mortgages, so that they are more "liquid." This system, which is referred to as the *secondary mortgage market*, is discussed in more detail later.

Financial Risk For the borrower in the financing transaction, the use of debt creates what is known as *financial risk*. Since the debt position has priority over the equity position, and the variation in the expected return to equity is increased by using debt, the risk is greater. At the same time, it may be possible to increase the expected equity yield. This process is known as *financial leverage*.

The lender also faces financial risk in making a mortgage loan. For example, the lender "borrows" from savers to make a mortgage investment. These savers

may suddenly decide that they want to withdraw the funds, but the funds are tied up in a long-term investment (a mortgage). The lender may thus be forced to sell the investment at a loss to repay the savers. From the lender's perspective, the mismatch in the time horizon of the borrowed and loaned (invested) funds is a serious problem.

The Risk Return Trade-Off

Thus, financing decisions are made in an environment that involves balancing the expected risks with the expected rewards (returns). Given a level of return, investors choose the investment(s) with the lowest expected risk; conversely, given a level of risk, investors choose the investment(s) with the highest expected return. For example, you have the following choices: mortgage A with an expected return of 12 percent and mortgage B with an expected return of 12 percent. Which would you choose? At first you may say that you are indifferent. However, we left out the vital second dimension: risk. Suppose A is riskier than B. Now you can make a choice—B. Why? Because given a choice when the return is equal, you will prefer the choice with the lowest risk.

Suppose we rewrite the example. You now know that A and B have the *same* risk level. If they had the same expected return, you would be indifferent. However, suppose A's expected return is 13 percent and B's is 12 percent. Which would you choose? Since both A and B have the same expected risk level, you will prefer the one with the highest expected return: A.

In practice, however, investors are not faced with a choice as easy as this. Often, sales pitches tout "high-return, low-risk investment." If investments of this type were indeed available, everyone would want them. Investors would then bid the price of these investments up to the point where they were no longer "high-return, low-risk." Thus, there is a definite positive relationship between expected risk and expected return. We use the term *expected* because before the investment is made, there is no absolute certainty about the return on investment. The greater the certainty of the return, the lower the risk and the lower the rate of return that can be expected. This is why an investment such as a government bond has a relatively low expected return and a speculative common stock investment, which has a higher level of risk, has a much higher expected return.

Thus, the following general principle applies to all investments. *Risk and expected return share a direct, inseparable relationship.* Figure 1-1 illustrates the risk-return trade-off. As the level of risk increases, the required rate of return also increases. Point A is called the risk-free rate. As the level of risk increases to, say, r_1 , the required rate of return increases to, say, R_1 . The increase in the rate from point A to r_1 is called the *risk premium*. This premium reflects all types of risk discussed previously. (Why is a positive rate required at even a zero level of risk? Don't say it's because you can take your money and put it in the bank and earn interest. *Hint*: What would you do with your money if you didn't loan it to someone?)

Another question concerns what level of risk *should* be assumed or what level

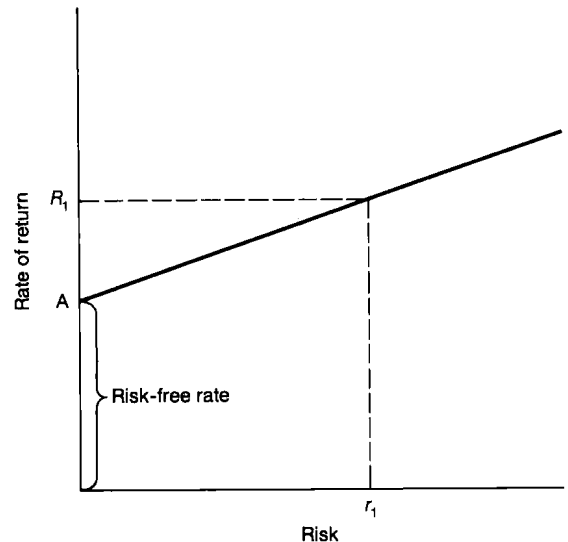


FIGURE 1-1 The risk-return trade-off.

of premium is necessary to account for risk in any investment decision. Unfortunately, there is no easy answer. When deciding the appropriate risk level to assume, each investor must consider current financial position, financial objectives, and personal factors. From the mortgage lender's perspective, the risk level assumed depends on the lender's willingness and ability (based on regulatory constraints) to risk depositor's funds. From the borrower's perspective, the appropriate risk level is based on the borrower's current financial position and objectives.

To summarize, financing decisions are made by comparing the *expected* rate of return on an investment with the *required* rate of return. To illustrate, let's return to our example of a \$50,000 loan with payments of \$515.47 per month, or \$6,185.64 per year. A simple measure of the rate of return on this investment is to divide \$6,185.64 by \$50,000; the result is 12.37 percent. Would you (the lender) make the loan? To make your decision, you must have a measure of the required rate of return. Suppose your required rate, given the expected risk you must take, was 15 percent. In this case you would not make the loan since you require 15 percent but the loan (investment) is expected to yield only 12.37 percent. Since the element of risk is present in all investment decisions, the borrower and the lender apply the same basic principle in analyzing the investment situation.

THE REAL ESTATE FINANCE INDUSTRY

In the real estate marketplace, lenders (suppliers) compete to make loans and borrowers (demanders) compete to obtain loans. The arena for the transactions between lenders and borrowers is the *finance industry*. The *mortgage market* via such participants as mortgage bankers, mortgage brokers, and various financial