Case Study 2: Housing Decisions: Renting Versus Owning*

Concepts illustrated: Federal taxation, depreciation, capital gains and losses, and present worth analysis, buy versus lease analysis.

Required readings: Chapters 4, 10, 11, and 12.

1 Background

The purchase of a home is the most significant expenditure that many people make in their entire lives. How should one arrive at a decision to make such a purchase? Why do some people actually prefer to rent? The purpose of this case study is to answer some of these questions.

Those faced with this decision obviously consider both economic and noneconomic factors. It is hard to categorize individual preferences in the decision to purchase a home as purely economic or noneconomic. Minimization of unit housing costs obviously is an economic decision. Certain individuals may wish to allocate a specific portion of their income to housing. Mobility, an important factor to some, may be hindered by home ownership. Home ownership also involves risks whenever the mortgage loan is a high percentage of home value; in many cases it increases the possibility of a crisis if the homeowner’s income is lost or reduced, even temporarily. Finally, factors that are entirely subjective, such as pride of ownership, bear different

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weights for different individuals.

Although the noneconomic factors are certainly important, we will concentrate on the principal economic factor; the desire to minimize the unit cost of housing. We will compare the present value of future cash flows of three individuals who make alternative housing decisions, and we will draw some conclusions.

2 The Decision Problem

The home ownership analysis to follow is intended to represent as realistically as possible 1990 market conditions in the areas of Dallas, Texas. A quick sampling of property in several housing areas in Dallas indicated that a house with market value of $120,000 could be rented for approximately $10,000 per year.

Assume first that there are three couples, each with $20,000. All three have the same gross income in salary and the filing status for income tax purposes.

- The first couple, designated as “Owners,” purchases a home.
- The second couple, “Renters”, decides to rent.
- The third couple, “Capitalists”, purchases a home and rents it out, while they rent for their own shelter.

The home buyers (Owners and Capitalists) are married and file joint returns. (Their income will be itemized later.) The market costs of their houses are each $120,000. (For tax purposes $40,500 is allocated to land and $79,500 to the building.) In addition to the $120,000, the home buyers pay $2,000 in points, $400 for title insurance, and miscellaneous expense of $100. The home buyers invest $20,000 and obtain a $100,000 fixed rate, 12% mortgage that amortizes over thirty years.

The Renters invest their $20,000 in a money fund that yields 10% yearly. They reinvest the interest income into the fund each year. In the initial year, the Renters pay rent of $10,000.
The Capitalists rent their shelter and invest their $20,000 in a home that they rent out. As the Renters do, the Capitalists receive rent of $10,000, but must also rent a shelter for $10,000 per year. The Capitalists and the Owners must pay for repairs and insurance equal to 8% of annual market rent and property tax equal to one percent of the house value at the beginning of the year.

Throughout the 10-year period of the analysis, all variables increase annually at the 6% annual inflation rate. These variables include the couples’ salaries, property values, rental income (or expenses), costs of repairs and property tax. When discounting after-tax cash flows, we use a 10% interest rate that represents these couples’ market interest rate under inflation. We assume a selling expense amounts to a 7% over property value.

3 Home Ownership and Federal Taxes

3.1 Buying Personal Property

We will look at what items may be deductible expenses under current tax law. A homeowner needs to understand how to determine the cost basis, how to treat settlement and closing costs, and how to treat repairs and improvements made on the property.

3.1.1 Cost as Basis

The cost of property is the amount one pays for it in cash including any debt incurred to acquire the property. The original basis of a home is the purchase price or cost of the property. This includes the down payment and any debt, such as a first or second mortgage, or notes given to the seller. The cost basis is adjusted by adding certain settlement or closing costs. Generally, all other items that are charged at settlement or closing add to the cost. They are a part of the original basis. These items include attorney’s fees, abstract fees, charges for installing utility service, surveys, transfer taxes, title insurance, and any amounts that may be actually owed by the seller but which the homebuyer agrees to pay, such as back taxes or interest, recording fee or mortgage fees, charges for improvements or repairs, and selling commissions.
In our example, the original cost basis of the property would be $120,000 [$40,500 (land) + $79,500 (building)]. The title insurance and other fees can be added to this original cost basis. Therefore, the cost basis of this property after adding these items is $120,500.

3.1.2 Points and Prepaid Interest

The term “points” is sometimes used to describe the charges paid by a borrower to a lender as loan origination fees, maximum loan charges, or premium charges. If the payment of any of these charges is only for the use of money, it is interest. These points are treated as prepaid interest. (You may deduct the amount you pay as points in full in the year of payment if the loan is used to buy or improve the principal home and is secured by that home.) In this case study we assume the points be treated as the prepaid interest deductible at time zero.

3.1.3 Repairs and Improvements to Your Home

You may not deduct the cost of repairs you make to your home, unless the home is used for business or rental purposes. Repairs, such as replacing a broken window or mending a leaky roof, keep your home in good condition, but do not add value or prolong its life. Like repairs, improvements cannot be deducted, but they do add to the cost basis of the home. Improvements, such as building an addition or paving the driveway, do add to the value of the home, or considerably prolong its useful life.

3.1.4 Deductible Expenses

The following are deductible expenses: (1) The interest you pay on your mortgage each year, (2) the amount you pay as points in full in the year of payment if the loan is used to buy your principal home and secured by that home, and (3) the amount of real estate taxes (property taxes) paid. In our example, the total interest payment for the first year would be computed as follows:
Loan amount = $100,000
Monthly payment = $100,000(A/P,1%,360) = $1,028.61
Total payments = 12 (1,028.61) = $12,343.35
Remaining Loan balance at end of 12 months = 1,028.61(P/A,1%,348) = $99,636.87
Total principal payment = 100,000 - $99,636.87 = $363.13
Total interest payment = 12,343.35 - 363.13 = $11,980.22

Interest payments for subsequent years can be computed in a similar fashion.

3.2 Items Not Deductible

You may not deduct any of the following, unless you use your home for rental or business purposes: (1) Expenses for maintenance and repairs to your home, (2) insurance including fire and comprehensive coverage, title and mortgage insurance, (3) depreciation, and (4) utility fees.

3.2.1 Sale of Principal Home

To figure the gain on the sale of your old home, you must know the net amount received for it, which is the selling price minus any selling expenses. The selling price includes all money, notes, mortgages, or other debts that are part of the sale. Selling expenses include commissions, advertising, legal fees, loan placement fees and points paid. After calculating the net amount received, you subtract the adjusted cost basis to obtain taxable gains:

\[
\text{adjusted basis} = \text{original basis (cost of property)} + \text{any property improvements} - \text{any property loss}
\]
\[
\text{taxable gains} = \text{sale price} - \text{selling expenses} - \text{adjusted basis}
\]
\[
\text{gains tax} = \text{taxable gains (tax rate)}.
\]
3.3 Rental Property

3.3.1 Rental Income

You must include in your gross income amounts you receive as rental income. You do not include a security deposit in your gross rental income when you receive it if you plan to return it to your tenant at the end of the lease.

3.3.2 Rental Expenses

You can deduct the cost of repairs that you make to your rental property. You may not deduct the cost of major (capital) improvements. You recover these costs by taking depreciation. Other expenses you can deduct from gross rental income include salaries and wages you pay to manage the property, advertising, janitor and maid service, utilities, fire and liability insurance, taxes, mortgage interest (assuming that it does not exceed rental income), commissions for the collection of rent, and ordinary and necessary travel and transportation.

3.3.3 Depreciation

You can deduct depreciation on your rental property. The total of all your yearly depreciation deductions cannot be more than your cost or other basis of the property. The deduction under MACRS is figured by multiplying the cost of the property (excluding land) by a certain percentage. In our example, the depreciation basis would be

\[
\text{depreciation basis} = \text{purchase cost } (\$120,000) \\
- \text{land } (\$40,500) \\
+ \text{closing cost } (\$500) \\
= \$80,000.
\]

Recall from Chapter 10 that the residential rental property has to be depreciated over 27.5 years. Note also that you do not subtract the expected salvage value of the property from its basis when figuring your deduction under MACRS. In our example, if the rental property is placed in service in January 1, the first year depreciation amount can be computed from the depreciation table given in Table 10.4 using the mid-month convention as follows:
depreciation basis = $80,000
depreciation rate = 3.48%
depreciation amount = 80,000(0.0348) = $2,784

3.3.4 Selling Rental Property

If you sell your rental property, you must figure your gain or loss. The original basis of property you bought is the cost of the property to you. This includes your down payment and any mortgage amount. You also add to the cost basis of your property certain items (the same as those described in purchasing a principal home) that are charged to you at settlement or closing. To compute any gain on your rental property, you must further increase your basis for improvements, additions, and other capital expenditures you made during the time you owned the property, and reduce your basis for losses from fire or other casualty, and any depreciation you have taken.

In summary, the gain is defined as

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\text{adjusted basis} = \text{original basis (cost of property)} + \text{any property improvements} - \text{any property loss} - \text{depreciation}
\]

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\text{taxable gains} = \text{sale price - selling expenses} - \text{adjusted basis}
\]

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\text{gains tax} = \text{taxable gains (tax rate)}.
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4 Required Assumptions for Economic Analysis

All three couples described in Section 2 have different allowable deductions; taxable income varies even more. The Renters have investment income while the Capitalists have rental income. We assume that the three couples have the same marginal tax bracket of 28%. Although the salaries of the three couples would move in tandem increasing at the annual inflation rate of 6%, we assume that tax rates will be indexed to account for inflation, leaving the marginal tax rate unchanged. Assume a 10% discount rate.

Issues for Considerations
1. Determine the projected cash flows over 10 years under three different scenarios (owners, renters, and capitalists). Which option is the most economical?

2. By varying the discount rate from 5

3. Suppose the Renters in this case were able to deposit their funds in a tax-deferred savings instrument. They still reinvest their interest earnings every year, but pay no taxes on them until the end of the 10th year at which time the total interest amount accumulated is taxed at a rate of 28%. Recalculate the Renters situation given these circumstances and compare it to the Homeowners and Capitalists.

4. Suppose that in the fifth year of owning their rental property, the Capitalists must make a costly roof repair, totaling $5,000, in order to keep their investment habitable and therefore earning income. Recalculate their position.