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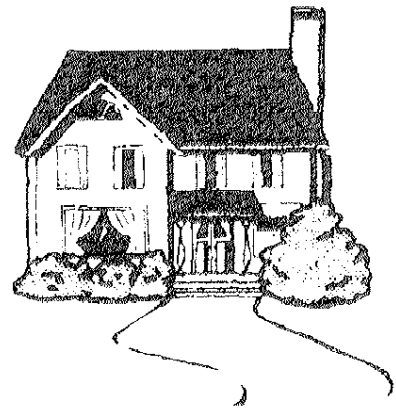
## A Home as an Investment, Tax Deduction and Inflation Hedge

Security, privacy, freedom—the American Dream is to purchase a home. Ownership of property is the bastion of capitalism. There is no doubt that owning a home is the goal of the average American today. Why? Is it the ability to have no landlord? Is it the freedom to stay or move? There are many emotional benefits to home ownership. However, the cornerstones of our capitalistic society are financial in nature. The reason we all aspire to own real estate is simply this: we desire to accumulate wealth. Time and time again, we hear of riches built with a real estate foundation. This book focuses on the financial aspects of home ownership as opposed to the emotional. Accordingly, this Chapter will address the financial reasons for owning and financing a home.

Even so, we do not want to play down the importance of the *psychological*, rather than economic reasons for owning a home. In 1992, the Federal National Mortgage Association (Fannie Mae) released a survey indicating 78% of all Americans think owning a home is a good investment. More than one-third of these gave *security* and *sense of permanence* as the reasons for wanting to own.

There are three basic economic reasons for purchasing a home:

1. *Real estate is an investment.* Using the concept of leverage, we will learn exactly why real estate constantly outperforms other investment vehicles—even during periods of low inflation.
2. *Real estate is a tax deduction.* Every year it seems that Congress opts to cut more and more tax breaks from the menu in the interests of tax simplification and preserving the progressive nature of the tax system. The mortgage interest deduction has suffered nicks and scratches but has emerged as the major survivor in the world of tax strategies.
3. *Real estate is an inflation hedge.* It has been several years since double digit inflation numbers have raised their ugly heads. Even in times of low inflation, monthly rents move upward much more quickly than a mortgage payment.



## Real estate as an investment—the concept of leverage

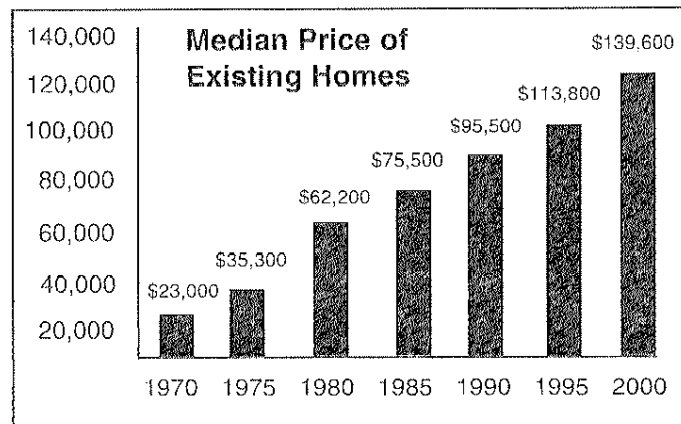
Early in the decade, financial experts predicted low appreciation rates for housing in the 1990s and beyond. For those who have dreamed of the 25% appreciation rates some areas experienced in the 1980s, these predictions must be a major source of disappointment. In fact, most of these *experts* predicted that housing will not be as solid an investment as it had been in the past. In reality, home price appreciation picked up as the century came to a close and real estate's long-term record of 7.0% average rates of appreciation was more than supported.

Any prediction of the future is just that—a prediction. We do not aspire to be any more accurate in presenting a scenario for the future of housing appreciation in any part of the country than the so-called economic experts. We feel that the best approach is to assume a low rate of appreciation to be conservative. We also feel that the concept of leverage has been missing in the experts' comparison of other investments to housing. It is the concept of leverage that makes housing an excellent investment in any inflationary environment.

What is the concept of *leverage*? Leverage is defined as the ability to control a large asset with a smaller asset. For example, you can purchase \$100,000 in real estate using \$5,000 in cash assets. You can leverage real estate highly because of several factors:

- a. Real estate assets have a long history of appreciation, this means security for those institutions that would lend against the asset.
- b. There is a complex system to record ownership of property—older than the United States itself. It is unlikely that the purchaser of real estate will be challenged by someone who is the *real* owner of the property from years gone by. This is also security for the lender.
- c. There are consistent national standards for qualifying purchasers of real estate. These standards reduce the risk that a real estate loan will default and allow the loan to be easily *liquidated* (sold for cash) in case the lender needs to raise capital in the future.
- d. Some mortgage programs are directly sponsored, subsidized, or insured by federal and local governments, resulting in smaller down payments than would otherwise be necessary through conventional lenders.

Let us compare a simple example in which we invest a cash asset of \$10,000 over a number of years, either by leaving it in the bank or by purchasing \$100,000 of real estate. The table assumes a 6.0% rate of interest in the bank for a total gain of \$7,908 after ten years. It also assumes a 6.0% appreciation rate for real estate during this time period. Factored in is a \$5,000 cost of purchase (closing costs) and 10% cost



Source: National Association of Realtors  
Graph 1-1

### **Leverage**

High powered finance for everyone

of liquidation (sales costs). It should be noted that, assuming the property is sold after ten years, these costs are \$15,000, which is more than the original asset. Yet the gain after ten years is \$64,085, or a 22.2% annual rate of return!

What we have developed in this Chapter is a more in-depth look at the concept of leverage as it relates to residential real estate. What if the rate of home appreciation slows down to 2% per year? What if you try to sell the real estate after two years? What if the down payment is 20% of purchase price? Generally, these rules apply:

- a. *Low rates of appreciation.* The effect of leverage will lessen with lower rates of appreciation. However, in the long run, real estate will still outperform savings based instruments. It makes sense that low rates of housing appreciation will be accompanied by low rates of inflation, which will also lower savings rates.
- b. *Holding periods.* Because of the cost of real estate acquisition (figured in our examples to be 10%) and the cost of real estate disposition (also figured as 10%, there must be a reasonable holding period for gain on real estate. During periods of moderate appreciation (5% to 7%) real estate must be held at least three to five years to be more profitable than savings accounts. Higher appreciation rates will allow for shorter holding periods. When we consider the fact that real estate also may serve as our home, the holding period required becomes less of an issue.
- c. *Increasing the down payment.* Generally, the larger the down payment, the smaller the percentage return on real estate. Remember that the concept of leverage requires that we control as large an asset as possible with the smallest asset possible.
- d. *Mortgage principal reduction.* In addition to the leverage principle, the gain on real estate is increased by a reduction in the principal amount of the initial mortgage on the property. In simple terms, as one owns a house, one builds up additional equity because each mortgage payment reduces the amount of the principal balance outstanding.

Table 1-2 shows the amount of principal reduction on a \$100,000 loan. In this example, the cumulative principal reduction after ten years would be \$14,187. This would be added to the gain calculated due to leverage and appreciation, as presented in the previous table. The table also shows how the most common type of mortgage loan, the *positively amortized* mortgage, has *accelerated* principal reduction properties. That means that the amount of principal reduction increases with each monthly payment. Note the table shows the first year's reduction is only \$1,015.79, while the tenth year's payments reduce the principal by over \$1,900.

With these concepts in mind, let's take a look at a comparison table that takes our money in the bank and compares its earnings with those from a pur-

**Return on Investment**

Years	\$10,000 Cash	\$100,000 Property
3	\$1,910	\$4,102
5	\$3,382	\$18,823
10	\$7,908	\$64,085
15	\$13,966	\$124,656
20	\$22,071	\$205,714
30	\$47,435	\$459,349

Assuming 6% rate of gain, \$5,000 downpayment, \$5,000 closing costs, and \$10,000 selling costs.

**Table 1-1**

**Principal Reduction**

**30 Year Term  
\$100,000 Loan Amount  
7% Fixed Rate Loan**

Year	Annual Principal Reduction	Cumulative Principal Reduction	Outstanding Principal Balance
1	\$1015.79	\$1015.79	\$98984.21
2	\$1089.21	\$2105.00	\$97895.00
3	\$1167.94	\$3272.94	\$96727.06
4	\$1252.39	\$4525.33	\$95474.67
5	\$1342.91	\$5868.24	\$94131.76
6	\$1440.00	\$7308.24	\$92691.76
7	\$1544.08	\$8852.32	\$91147.68
8	\$1655.73	\$10508.05	\$89491.95
9	\$1775.41	\$12283.46	\$87716.54
10	\$1903.76	\$14187.22	\$85812.78

**Table 1-2**

chase of \$100,000 in real estate over ten years. We have varied the appreciation rates, interest rates on savings, and down payments. We also assume 5% closing costs and 10% selling costs. Thus, the *total investment* is the down payment plus the 5% closing costs. The net returns are then calculated from the appreciation of the property, plus the principal paid, minus the closing costs, the selling price, and the income that could have been received had the investment been left in a savings account. That means the returns shown are over and above what the money would have made in the bank.

The result is an interesting comparison of returns. Note the returns are actually greater when a lower down payment is used. This becomes an enormous difference if viewed in terms of the percentage return on the investment.

Next, let's look at the impact of varying the number of years you own your home. Since you only have to pay closing and sales costs once, you will benefit most from a longer ownership period. As table 1-4 shows, the financial benefits of longer homeownership periods are even more impressive. A long holding period assures positive returns, even at low appreciation rates.

### Calculation of the tax savings of a mortgage payment

#### *The concept of rental equivalency*

This section will focus on the tax savings of a mortgage payment. Recent changes in the tax code leave mortgages as the only major write-off still available to the average citizen. Other sections of this book will focus on whether a purchaser can qualify for a mortgage loan. This section will focus on whether a purchaser can afford a mortgage loan. We do this by comparing the present rent payment of the purchaser with the proposed mortgage payment.

We make this comparison by calculating the rental equivalency of the mortgage payment. The term rental equivalency refers to

### Net Return on Investment \$100,000 Home With Principal Reduction and Equity Gain Assuming a Mortgage Held for 10 Years

Down Payment		20%	10%	5%
Total Investment		\$25,000	\$15,000	\$10,000
Loan Amount		\$80,000	\$90,000	\$95,000
Home Appreciation Rate	Savings Interest Rate			
2%	3%	\$6,758	\$11,254	\$13,502
3%	3%	\$19,250	\$23,746	\$25,994
4%	3%	\$32,883	\$37,379	\$39,627
5%	5%	\$40,623	\$47,969	\$51,642
6%	5%	\$56,819	\$64,165	\$67,838
7%	5%	\$74,449	\$81,795	\$85,468
8%	6%	\$89,578	\$98,543	\$103,026
9%	6%	\$110,421	\$119,387	\$123,870
10%	7%	\$128,652	\$139,380	\$144,744
12%	8%	\$175,068	\$187,714	\$194,037
15%	9%	\$263,828	\$278,559	\$285,924

Table 1-3

### Net Return on Investment \$100,000 Home With Principal Reduction and Equity Gain Assuming a 7% Mortgage and 10% Down Payment

Number of Years Held		3	5	10
Home Appreciation Rate	Savings Interest Rate			
2%	3%	(\$8,247)	(\$3,273)	\$11,254
3%	3%	(\$5,095)	\$2,246	\$23,746
4%	3%	(\$1,881)	\$7,984	\$37,379
5%	5%	\$421	\$12,192	\$47,969
6%	5%	\$3,760	\$18,386	\$64,165
7%	5%	\$7,163	\$24,819	\$81,795
8%	6%	\$10,129	\$30,567	\$98,543
9%	6%	\$13,661	\$37,497	\$119,387
10%	7%	\$16,747	\$43,721	\$139,380
12%	8%	\$23,620	\$57,902	\$187,714
15%	9%	\$34,685	\$81,764	\$278,559

Table 1-4

the amount of the mortgage payment after the effect of taxation. A discussion of rental equivalency should enable a real estate professional to demonstrate the concept of affordability to a first time homebuyer. The concept can also be applied to move-up buyers because the increased mortgage payments can also be reduced by the amount of tax savings.

Let us take an example of someone who is paying \$900 each month in rent. Let's also assume the same home would cost \$150,000:

Rent	Owning	Mortgage Payment (PITI)
\$900	\$150,000 Sales Price	\$948.52 Principal & Interest (PI)
	142,500 Mortgage	150.00 Real Estate Taxes (T)
	7.00% 30 Year	30.00 Homeowners Insurance (I)
		58.19 Private Mortgage Insurance
		<u>\$1186.71</u> PITI

In this example the mortgage payment is \$287 more than the rental payment of \$900 each month. It is natural for a prospective purchaser to say:

*"I can hardly afford my rent. How can I afford \$287 more each month?"*

In order to answer this question, we must compare the rent payment with the mortgage payment after the tax benefits have been calculated. In order to do this, we must answer the following:

- How much of the mortgage payment (PITI) is tax deductible?
- What tax bracket is the borrower in?

Fortunately, most of the mortgage payment carries tax benefits, because the interest and real estate tax portions can be deducted from one's income. The calculation is as follows:

\$142,500 mortgage x 7.00% = \$9,975 annual interest, or \$831 monthly  
 Therefore, \$831 out of the total PI payment of \$949 is interest and is deductible.

\$831	Interest
<u>150</u>	Real Estate Taxes
Total deductible portion of payment:	\$981

\$981 is 83% of the total payment (PITI) of \$1,187

Now that we know the deductible portion of the payment, we can determine the tax bracket of the borrower and calculate the tax savings. Using the Federal Monthly Withholding Tax Charts in the Appendix, we find the following:

Borrower's Income (Single):	\$60,000	annually, or \$5,000 monthly
Borrower's Present Federal Tax:	\$1,312	
Borrower's Income after Deduction:	\$3,688	(\$5,000 minus \$1,312)
Borrower's New Federal Tax:	\$855	
Tax Savings:	\$457	
Rental Equivalent:	\$1,187	Total Mortgage Payment
Tax Savings:	(-) 457	
Rental Equivalent:	\$ 730	
Actual Rent on Same Property:	\$900	

A few things to note on the previous calculations:

1. There are also state and local tax savings for most borrowers. They are not shown because many times the borrower will need the deductibility of state taxes paid to exceed the standard deduction given to tax payers who do not itemize deductions. Those who do not have enough itemized deductions to reach the standard deduction without the mortgage payment will not fully realize the tax savings for mortgage deductibility. Eliminating the analysis of state and local tax savings minimizes this effect.

**Rental equivalency**  
**Rental Tax-Equivalents**  
**Assuming married filing jointly, no standard deduction,**  
**and 85% of PITI is deductible**

Total Mortgage Payments (PITI)							
Monthly Income	\$800	\$900	\$1,000	\$1,200	\$1,500	\$2,000	\$2,500
\$2,000	\$698	\$785	\$873	\$1,047	\$1,309		
\$3,000	\$696	\$783	\$870	\$1,045	\$1,307	\$1,743	\$2,179
\$4,000	\$610	\$686	\$762	\$915	\$1,177	\$1,613	\$2,049
\$5,000	\$610	\$686	\$762	\$914	\$1,143	\$1,524	\$1,919
\$6,000	\$610	\$686	\$762	\$914	\$1,143	\$1,524	\$1,905
\$7,000	\$610	\$686	\$762	\$914	\$1,143	\$1,524	\$1,905
\$8,000	\$589	\$663	\$738	\$891	\$1,119	\$1,500	\$1,881
\$9,000	\$589	\$663	\$737	\$884	\$1,105	\$1,473	\$1,851

Table 1-5

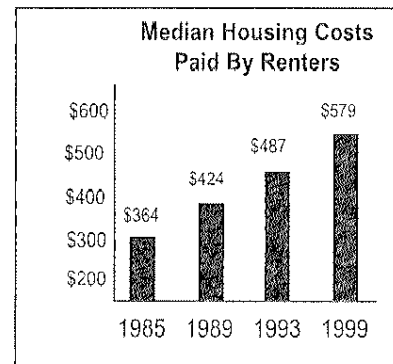
2. There are additional savings for homeowners. The portion of the principal and interest payment that is not interest (\$949 PI - \$831 I) is principal which goes to pay down the loan. This is equity the homeowner is building up even without housing appreciation—a forced savings plan. In this case the rental equivalency with the additional factor would be \$730 minus \$118, or \$612.

To save you the steps of these complex calculations, we have devised a chart that calculates the rental equivalency of mortgage payments. The chart assumes that 85% of the typical mortgage payment will be tax deductible. It also assumes the tax bracket of a married couple with no children. The savings for single individuals will be slightly larger. You can use the table to extrapolate to other mortgage payments. For example, the tax savings for a \$950 mortgage payment would be one-half of the difference between \$900 and \$1,000.

**The mortgage payment as an inflation hedge**

We have discussed the investment aspects of a home purchase; clearly the use of leverage causes real estate to be a superior investment at any level of appreciation. The concept of rental equivalency makes the investment affordable in the short run. But what about the affordability of a home in the long term? How does the home stack up against renting five, ten, and twenty years from now? As time goes on, home ownership becomes more and more affordable because a home is an *inflation hedge*.

What is an inflation hedge? We all know what inflation is. It is the tendency for expenses to rise over time. We know that rent is subject to inflation. If your present rent payment is \$800, a 5%



Source- U.S. Bureau of the Census

Graph 1-2

rate of inflation would make the payment \$1,303 in ten years. A *hedge* is an instrument of financial protection. Sophisticated investors protect their investments from erosion by using hedges. For example, someone holding a large stock portfolio may purchase futures, betting that the stock market will go down. If we then have a stock market crash, the person can offset the loss in the value of his stocks with the gain in the futures. An inflation hedge protects one against future costs of inflation. The reason for this is simple—a mortgage payment resists inflation.

Why does a mortgage payment resist inflationary pressures? Because the largest portion of the mortgage payment is the loan repayment (P&I). (Note: The payment on adjustable rate mortgages may increase independently of inflation.) The remainder of the payment will be subject to inflation. Specifically, real estate taxes, homeowners insurance, and association dues will tend to move up with inflation. However, since these are only a small portion of the payment, the overall payment will not increase as fast as rent.

**A Typical Mortgage Payment**

\$100,000, 30 Year Mortgage at 7%	
Principal and Interest (P&I)	\$665
Real estate taxes	101
Homeowner's insurance	35
<u>Total PITI</u>	<u>\$801</u>
Portion subject to inflation	\$136
Percentage subject to inflation	17.0%

In the example, only \$136.00 or 17.0% of the total mortgage payment is subject to inflation. We will use 20% as an even number. This will reduce any effective inflation by a factor of five, *i.e.*, an inflation rate of 5% will become 1%. In other words, the rent payment will move up at a speed of five times the amount of the mortgage payment. Let's see what the effect is on long term numbers.

Using Table 1-6, we can see that even low rates of inflation (3% to 4%) will cause the mortgage payment to become virtually equal to rent in ten years time. These are conservative measures; the average inflation rate in the United States for the period from 1978 to 1999 has been over 4.0%.<sup>1</sup>

Our analysis of inflation hedging is only partially complete. We have merely compared the actual payment increases over a period of time in accordance with various imputed inflation rates. We have not factored in the effects of tax deduction and principal reduction of the mortgage. In ten years, the rent payment is still projected to have no tax benefit. Table 1-7 repeats the same chart, only this time we are reducing the mortgage payments by the amount of the federal tax benefit and the principal portion of the P&I payment.

**Inflation Effects on Rent and Mortgage Payments**

Assuming 20% of mortgage is subject to inflation

Inflation Rate	\$1,000 Rent		\$1,400 Mortgage	
	After 5 Years	After 10 Years	After 5 Years	After 10 Years
3%	\$1,159	\$1,344	\$1,443	\$1,486
4%	\$1,217	\$1,480	\$1,457	\$1,516
5%	\$1,276	\$1,629	\$1,471	\$1,546
6%	\$1,338	\$1,791	\$1,486	\$1,577
7%	\$1,403	\$1,967	\$1,501	\$1,609
8%	\$1,469	\$2,159	\$1,516	\$1,641
9%	\$1,539	\$2,367	\$1,531	\$1,673
10%	\$1,611	\$2,594	\$1,546	\$1,707
11%	\$1,685	\$2,839	\$1,561	\$1,740
12%	\$1,762	\$3,106	\$1,576	\$1,775
13%	\$1,842	\$3,395	\$1,592	\$1,810
14%	\$1,925	\$3,707	\$1,607	\$1,845
15%	\$2,011	\$4,046	\$1,623	\$1,881

Table 1-6

<sup>1</sup> U.S. Department of Labor, Bureau of Labor Statistics

**Inflation, Tax, and Principal Reduction  
Effects on Rent and Mortgage Payments**

Assuming \$120,000, 30 year mortgage at 7%  
Interest, with 20% of mortgage subject to  
inflation, real estate taxes starting at \$150 per  
month

Inflation Rate	\$1,000 Rent		\$1,400 Mortgage	
	After 5 Years	After 10 Years	After 5 Years	After 10 Years
3%	\$1,159	\$1,344	\$1,052	\$1,055
4%	\$1,217	\$1,480	\$1,066	\$1,087
5%	\$1,276	\$1,629	\$1,080	\$1,122
6%	\$1,338	\$1,791	\$1,095	\$1,161
7%	\$1,403	\$1,967	\$1,110	\$1,203
8%	\$1,469	\$2,159	\$1,126	\$1,249
9%	\$1,539	\$2,367	\$1,142	\$1,298
10%	\$1,611	\$2,594	\$1,160	\$1,352
11%	\$1,685	\$2,839	\$1,177	\$1,411
12%	\$1,762	\$3,108	\$1,196	\$1,474
13%	\$1,842	\$3,395	\$1,215	\$1,543
14%	\$1,925	\$3,707	\$1,235	\$1,617
15%	\$2,011	\$4,046	\$1,255	\$1,698

Table 1-7