

Real Estate ... getting involved



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Nominal Justification .. a summary

1. A high-yield investment
2. Ultimate hedge against inflation
3. Retirement planning
4. Tax considerations
5. Candide! (Grow your own garden)



Leverage and the tax advantage ...

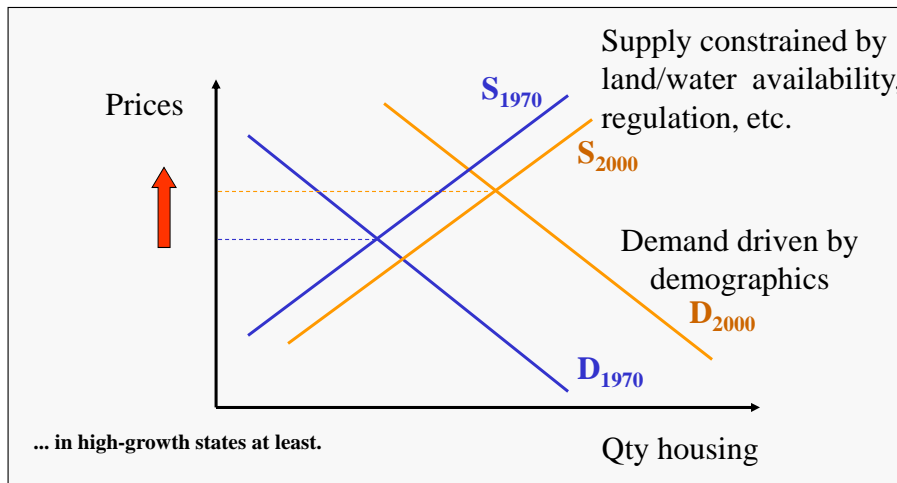
Leverage will equal the inverse of the percentage of the down payment on a real estate purchase: $1/(\% \text{ down})$

Example: 20% down, $L = (1 / 0.20) = 5$, so if the house rises in value **10%**, your *rate of return on investment* is **50%**.

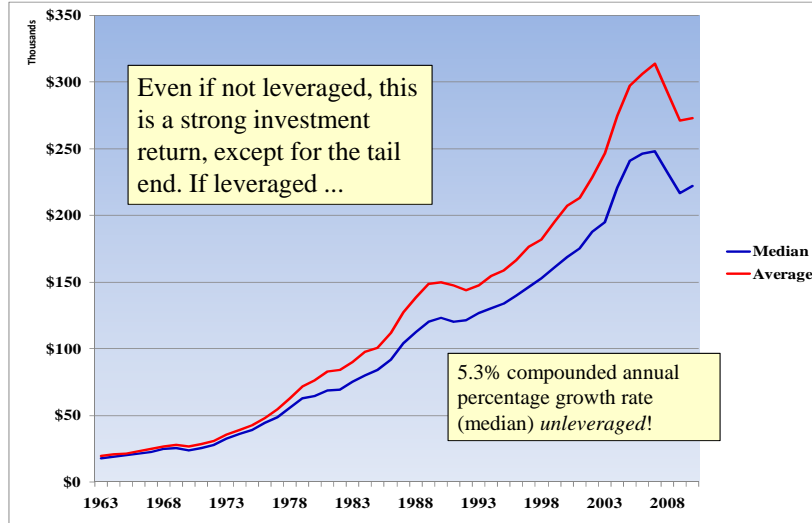
\$50,000 down on \$250,000 (\$200,000 loan). House rises 10% to \$275,000, your equity rises 50% to \$75,000.

Tax advantage: The interest payment on your loan and the property taxes you pay are deductible from your taxable income, federal and state, which will lower your taxes considerably and implicitly reduce your net payment for you home by 20% or more.

The general tendency for real estate prices to rise explained by demographics



The Median and Average Prices for New Homes, U.S. all regions, 1963-2010



Source: U.S. Census Bureau, Manufacturing, Mining and Construction Statistics, New Residential Sales, 2011

Components of a Monthly Payment

.. example for \$120,000 30-year FRM

- 1. Interest
√\$950
- 2. Principle Reduction
√\$50

Impounds:

3. Property Taxes

√\$120

4. Insurance

√\$120

Values shown in red are tax deductible from *both* federal and state income taxes, in that they reduce your taxable income on *Schedule D*. This reduces the effective monthly payment by a percent equal to your marginal tax bracket (more or less).

Fundamental Steps in Buying a Home .. go right down the list

1. Figure out the monthly payment that you can afford
 - based upon qualification criteria (later)
2. Figure out the kind of loan that you would like and shop for rates
 - based in part upon your planned down payment
3. Given 1 and 2, figure out the upper limit of the price range that you can afford.
4. Decide between used or new after comparing both.
5. Find the home.
6. Find the lender (if not done in step 2).
7. Find the escrow agent (often done for you).
8. Shop for home insurance (highly variable).

Financing the Dream Real Estate Loans



Terms (reading)

.. real estate argot

- ✓ PMI
- ✓ Trust deed (1st and 2nd)
- ✓ Equity
- ✓ Home equity loan
- ✓ Refinance
- ✓ Points
- ✓ Impounds
- ✓ Balloon payment
- ✓ APR
- ✓ ... and all types of loans



The old standards ... now they are back!!

Qualifying for Traditional Loans

.. documents needed & conditions

1. IRS 1040s (2 to 3 years)
2. Credit records (should be impeccable, target 750)
3. Balances for all financial accounts (although they can get this from the credit report)
4. List of all debts (also from the credit report)
5. Formal documentation of employment (like to see 2 to 3 years and they will check).



Qualifying

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Down payment:

- 1%-2%
 - First time
- 5%
 - VA/FHA
- 10%
 - Buy-down and special qualifier loans, typically variable rate
- 20%
 - Conventional

Income required:

This is a conservative standard and a rough rule of thumb, but loan payment should not take more than 30% to 35% of your net (after-tax) income and no more than 40% of your net income after debt service.

General advice: Before buying a house, keep debt to a minimum.



Relaxed standards in recent years

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In the real estate boom of the early 2000s, especially in 2004 through 2007, real estate lending standards essentially collapsed. Brokers found ways to qualify just about anyone for a home with teaser ARMs that had low initial starting rates and payments were for interest only ... principle reduction kicked in after 3,5, or 7 years (typically). Additionally, you could qualify for these loans with **no money down!!**

What's the potential problem? With no money down the owner has no initial equity in the house at all. Many of these borrowers just qualified under these terms and can *barely* make their current house payment. They face the prospect of rising interest rates and reaching the trigger point where principle reduction kicks in, and unless prices have escalated so they can refinance, many will be in serious financial trouble.

In 2006, in addition to all of this above, lenders began to accept loan applications **with no income documentation** and they did not even do spot checks to seek evidence of fraud, which was widespread.

Wells Fargo loan rates November 17, 2011
\$200.000 loan, zip code 91739, home purchase

Mudd Finance

Source: Wells Fargo Home Loan web site, this date.

Mortgage Solutions as of 11/17/2011 10:52 AM Eastern

Loan Type	Interest Rate ¹	APR ¹	Payment
30-Year Fixed	4.000%	4.168%	\$954.83
30-Year Fixed FHA	3.750%	4.125%	\$1,117.29
15-Year Fixed	3.250%	3.543%	\$1,405.34
5-Year ARM	2.375%	3.106%	\$777.31
5-Year ARM FHA	2.750%	2.481%	\$1,006.16

[30-Year Fixed](#) as of 11/17/2011 10:52 AM Eastern

[Calculate Home Equity Loan Payments](#)

Loan Basics		Additional Loan Information	
Loan Amount	\$200,000	Loan Purpose	Purchase
Interest Rate ¹	4.000%	Home Value	\$250,000
APR ¹	4.168%	Property Type	Single Family
Lock-in Period	60 days	Occupancy	Primary
Payment Term	30 yrs	Property State	CA
Down Payment	20.00%	Property County	San Bernardino
Estimated Monthly Payment	\$954.83		
Estimated Prepaid Finance Charges	\$4,000		
Upfront Mortgage Insurance Premium	\$0.00		
Monthly Mortgage Insurance Premium	\$0.00		

← **Note:** These are one-point loan rates.

30-year fixed rate
... the safe bet

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➤ **Features**

The interest rate and payment are fixed nominally for 30 years.

➤ **Advantage**

No uncertainty, payments fixed, wonderful during inflations, great tax advantage.

➤ **Disadvantage**

Rates a little higher than other options, often hard to get with less than 20% down.

15-year fixed rate (or 10 or 20)

... building equity quick

➤ Features

The interest rate and payment are fixed nominally for 15 (or 10 or 20) years.

➤ Advantage

Rates lower than 30-year FRM, equity accumulates faster, sometimes wiser for retirement planning

➤ Disadvantage

Monthly payments about 18% to 20% higher than 30-year FRM, but each year offers less of a tax break (amount going to interest is lower, to principal reduction is higher).

80-10-10 and similar FRM

... less cash down, avoid PMI

➤ Features

- ✓ Conventional 30-year or 15-year FRM for 80% of loan value.
- ✓ 10% down
- ✓ 10% financed on 2nd mortgage at higher interest
- ✓ also 80-15-5 etc.

➤ Advantage

Lower down payment and no PMI.

➤ Disadvantage

2nd mortgage at higher rate, fairly high monthly payment.

5/25s and 7/23s ... often used for 2nds

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➤ Features

Amortized as though a 30-year FRM (same payment) but loan expires in 5 or 7 years with *balloon payment* (which implies refinancing then) of balanced with 90% of principal still owed.

➤ Advantage

Offered at low rates (they are short-term loans) and OK if you think you will be selling your house (or will be able to refinance if a 2nd mortgage).

➤ Disadvantage

You have to sell or refinance in a few years and you don't know what the market will be like then.



30-year /15 year ARMs

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... adjustable rate mortgages

➤ Features

Variable rates, often adjusted periodically (i.e. once a year) to some designated interest rate measure, like the "11th district cost of funds," often with caps, teasers (*with prepayment penalties*), and buydowns.

➤ Advantage

Rates often low, easier to get, typically have low or no down payment.

➤ Disadvantage

You bear **all** inflation and interest risk, loans are hard to understand, often have hidden risks and charges.



More Loan Jargon (from ARMs)

- **Cap** - The highest level that the interest rate can go on an ARM.
- **Teaser** - A below-market interest rate offered on an ARM (typically) in order to attract the borrower and qualify the borrower for the loan; always connected to an early payback penalty. The teaser rate, which may be as low as 1%, will last from a few months to a couple of years, after which the loan reverts to market or above-market adjustable rates, either in step adjustments (staircase) or in one adjustment.
- **Staircase** - (See above) multiple steps from a teaser rate to a full rate
- **Buydown** A subsidy by a home-builder for the first few months of a loan.



Negative Amortization ... staircase loans



➤ Purpose

Easier qualifying, makes earlier years easier, but deceptively so – this was a big part of the mortgage meltdown.

➤ Features

Payments in the first few (i.e. 5) years so low that they don't even cover interest obligation. Deficiency is added to principal each month so loan balance grows. Then payments begin to increase (the staircase) until principle reduction is achieved, then payment is fixed for duration of loan at a variable or fixed rate, whatever the contract specifies. These loans have *huge early payment penalties*.

Subprime Loans

Subprime loans earned many headlines in early 2007 because of their soaring default rates. Subprime loans are loans that require virtually no documentation from the borrower - no income verification or other qualifying documentation listed on our earlier slide. These loans are almost always marketed with very low teaser rates that either step up to above market variable rates or to market rates after negative amortization. The teaser subprime loan will always have an expensive cashout penalty for the first few years (because the lenders are not stupid). Subprime loans are largely financed by mortgage pools and sold to buyers who otherwise would not qualify for a loan. It became clear in early 2007 that many truly unqualified borrowers and speculators had borrowed with subprime loans and, because real estate appreciation had stopped, they were unable to meet monthly payments when the loans stepped up. This guaranteed sizeable default and foreclosure rates beginning in 2007 and continuing to the present (Winter 2010)

Leverage: continuous investment rate of return on owner-occupied real estate

$$\ln\left(\frac{DP + (PV - PP)}{DP}\right)\left(\frac{1}{t}\right) = r$$

where

DP: down payment

PV: present value

PP: purchase price

t: time in years

$$\ln\left(\frac{40 + (154 - 140)}{40}\right)\left(\frac{1}{3}\right) = 10\%$$

example

Three years ago you paid \$40K down to buy a house for \$140K that is now worth \$154K. Your compounded yield is 10%

... of course this works in *both* directions.

Formula for the monthly payment of a fixed rate mortgage (FRM)

Derived from summing a geometric series:

$$MP = \left[\frac{LP \left(1 + r/12\right)^n \left(r/12\right)}{\left(1 + r/12\right)^n - 1} \right]$$

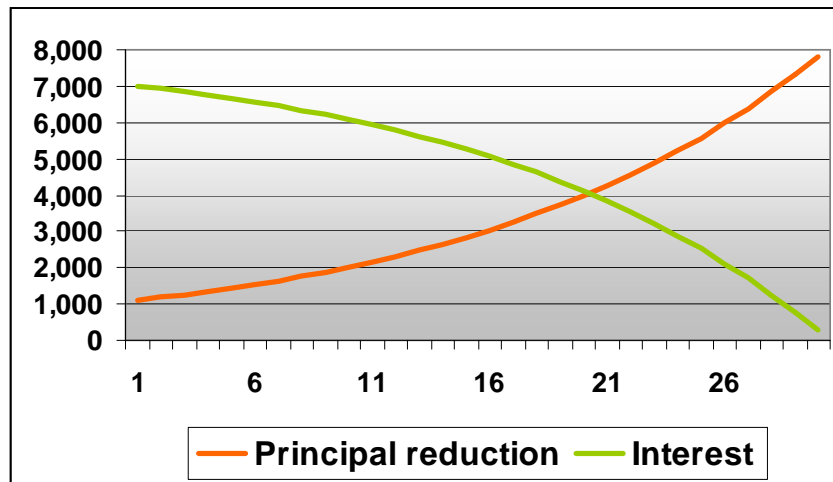
where **MP** is the monthly payment, **LP** is the loan principle, **r** is the loan rate, and **n** is the number of payments

$$\$655 = \frac{[100,000(1.00583)^{360} \times (0.00583)]}{[1.00583^{360} - 1]}$$

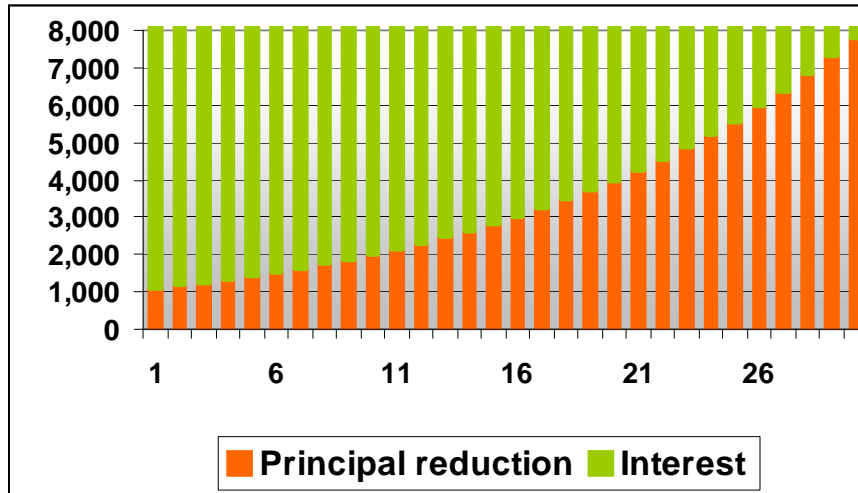
example of a \$100,000 30yr FRM financed at 7% ... **note!! you must convert annual rate to monthly: .07/12 = .00583**

Note: With an ARM, this is simply recalculated every time the rate changes given the number of payments remaining.

Payment Composition (30 year FRM, \$665 per month)



...shown a different way



Formula for calculating the maximum loan value that you can afford

MMV = Maximum Mortgage Value and variables have the same definition as in the mortgage formula:

$$MMV = MP \left[\frac{12}{r} - \frac{12}{(1 + r/12)^n r} \right]$$

$$\$100,000 = 655 \left[\frac{12}{0.07} - \frac{12}{(1 + 0.07/12)^{360} \times 0.07} \right]$$

Two things to remember:

1. The monthly payment should be no greater than 30% to 35% of your income.
2. Here you are calculating the maximum mortgage value (MMV), not the maximum home value (MHV). Take into account the down payment. So if you have \$25,000 for a

down payment, the maximum home value is \$125,000. If calculated using a percentage down (PD), then

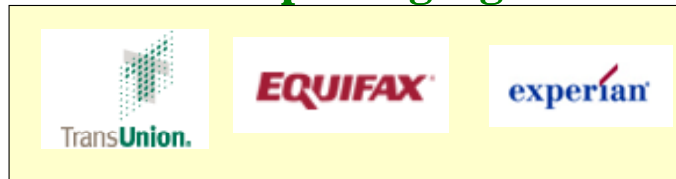
$$MHV = MMV / (1 - PD) = 125K = 100K / (1 - 0.2)$$

The FICO/Credit score

- Between 300 and 850
 - for you, the higher the better – target **750!**
- Determined by complicated formula with many variables
 - To see a FICO chart and examples of scoring see <http://www.harppfinancial.com/FicoScoringChart.htm>
- The three credit agencies use different weights
- Negatives include:

Late payments (huge penalty), too many vendors asking to see your file, too many credit cards with balances near upper limit, too few or too many credit cards (3 or 4 are optimal), payment history too short.

Credit Reporting Agencies



- The three big credit agencies are Transunion, Equifax, and Experian.
- They keep your FICO score, but also your general credit history, including late payments or any other problems.
- These three companies are **required by law** to give you a **free credit report** every 12 months.
 - at <http://www.annualcreditreport.com> **USE THIS!!**
 - the law required these three companies to maintain this website
- Do not use the heavily (on-line, TV) advertised "credit clinics" - some are fraudulent and none do more than you can do yourself with guidance from the website above .

Identity Theft

- Typically in the form of illegal charges on your card
 - online theft may be less common than physical "merchant" theft, but you are vulnerable to both
 - examples include trial usage for small amounts online to see if the card is active, quick merchandise purchases, money transfers overseas through Western Union et. al.
- Personal information on checks identifies you, your bank routing number and your account number
- Minimize use of debit cards, they are especially vulnerable because money is transferred directly out of your bank account
- Also review information on the Federal Trade Commissions Identity Theft website at <http://www.ftc.gov/bcp/edu/microsites/idtheft/>

Steps to take if you are the victim of ID theft

1. *Immediately* contact the credit card or debit card issuer and report the theft.
 - they will take your information (sympathetically in my experience) and ask you to
 1. file a local police report and
 2. sign an affidavit testifying that your claim is legitimate and submit that back to the card issuer.
 - the credit card issuer *will reverse the charge* and you will not have to pay the stolen amount
2. Then file a fraud alert with a credit agency (see next slide).
3. Cancel the credit/debit card immediately *or* have the issuing agency change the account number.

Filing a fraud alert

From the *annualcreditreport.com* website:

How do I request a "fraud alert" be placed on my file? You have the right to ask that nationwide consumer credit reporting companies place "fraud alerts" in your file to let potential creditors and others know that you may be a victim of identity theft. A fraud alert can make it more difficult for someone to get credit in your name because it tells creditors to follow certain procedures to protect you. It also may delay your ability to obtain credit. You may place a fraud alert in your file by calling just one of the three nationwide consumer credit reporting companies. As soon as that agency processes your fraud alert, it will notify the other two, which then also must place fraud alerts in your file.

•Equifax: 1-877-576-5734; www.equifax.com

•Experian: 1-888-397-3742; www.experian.com/fraud

•TransUnion: 1-800-680-7289; www.transunion.com

An *initial fraud alert* stays in your file for at least 90 days. An *extended alert* stays in your file for seven years. To place either of these alerts, a consumer credit reporting company will require you to provide appropriate proof of your identity, which may include your Social Security number. If you ask for an extended alert, you will have to provide an *identity theft report*. An *identity theft report* includes a copy of a report you have filed with a federal, state, or local law enforcement agency. For more detailed information about the *identity theft report*, visit www.consumer.gov/idtheft.