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Securities

TOPICAL STUDY #14

COULD REAL ESTATE PRICES FALL? AND WHAT IF THEY DO?

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August 24, 1988

Economics

I. Introduction

When stock prices crashed on October 19, 1987, many economists concluded that a consumer-led recession was imminent. It didn't happen because very few households own stocks.[2] But just about everyone owns a house. What if home prices fall? A 1983 survey showed that only 20% of American households own any stocks at all and a meager 10% have stock portfolios exceeding $5,000 in value.[3] In comparison, roughly 70% of American households own their homes. And, the average price of existing single-family homes sold during 1987 was $106,000.

Deflationists see a potential for a disaster. They argue that a full-blown depression, not just a garden-variety recession, could occur if home prices fall. For example, the front cover of the August 22, 1988 issue of *Barron's* is headlined "The Coming Collapse Of Home Prices" and shows a single-family home teetering on the edge of a cliff. The story is an interview with Stan Salvigsen, Michael Aronstein, and Charles Minter, who make up the well-respected investment-strategy team of Comstock Partners, Inc. The trio believe that the overuse and abuse of mortgage credit will soon cause a crash in real estate prices. Aronstein predicts that "if that market falls, you would have all the classical effects on consumption that people presumed the stock market decline was going to usher in." The partners are very bullish on bonds of the highest quality.

In 1987, James Dale Davidson warned in *Blood In The Streets,* that a real estate crash is coming.[4] "Six deadly storm clouds are gathering over real estate," he wrote. They are:

1) The fall in the value of farmland. "This is an ominous parallel in the past: The collapse of land values was a prelude to the general collapse of 1929."

2) "In the United States, the greatest building binge in history has quadrupled vacancy rates, driving rents down, and increasing loan defaults and repossessions to levels unparalleled since the Great Depression."

3) Tax reform measures which became effective in 1987 dramatically reduced the after-tax return of real estate. Real estate can no longer shelter as much income from the Internal Revenue Service as it used to before the tax code change.

4) Another potential disaster for real estate is the precarious condition of hundreds of savings and loan banks in the United States. "They are broke. When their doors close, real estate will have its toe slammed."

5) Mortgage loan defaults have been on an uptrend in recent years. "As defaults pile up, especially in energy-producing states, a major crisis could develop in the mortgage market, another ominous parallel with the Great Depression."

6) "In most parts of the United States, private homes and condos are selling at big premiums to their rental values . . . . With the tax advantages of ownership in jeopardy, the residential market in the United States could be more fragile than it looks."

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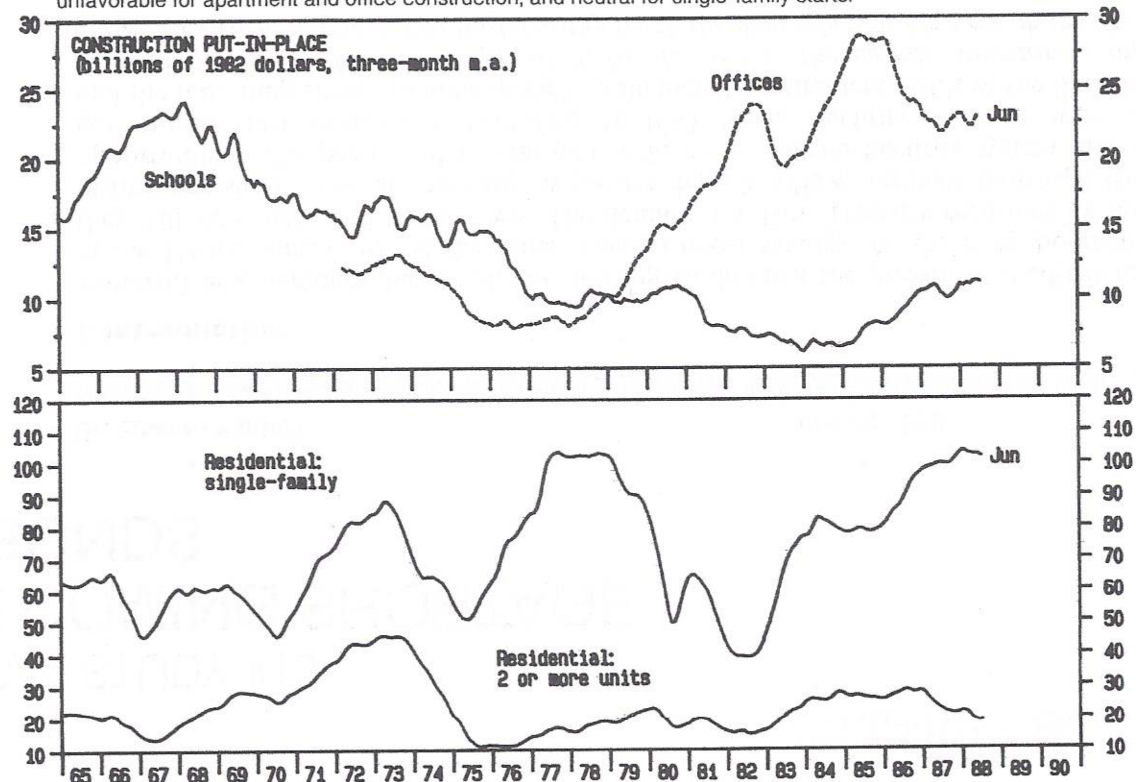
[1] Deborah Johnson and Amalia Quintana assisted in the preparation of this report.
[2] See Edward Yardeni, "Here's Why The Stock Crash Didn't Cause A Consumer-Led Recession," *Money & Business Alert,* February 24, 1988.
[3] F. Thomas Juster, "Stock Prices and Consumer Spending: An Appraisal of the Great Crash," in *Economic Outlook USA* (Survey Research Center of the University of Michigan, Winter 1987-1988), pp. 16-19.
[4] James Dale Davidson with Sir William Rees-Moog, *Blood In The Streets,* (New York: Summit Books, 1987), pp. 273-274.

Some of Mr. Davidson's storm clouds have already blown away without precipitating any economy-wide disasters. But the potential for serious trouble still exists particularly if bankrupt savings and loan associations are forced to dump their real estate holdings at whatever price the market will bear. *Still, we don't believe that a real estate crash is imminent or inevitable. More likely, home prices will continue to rise, but at a pace that shouldn't exceed the economy's overall rate of inflation, which should remain around 4% this year and next year and gradually decline to 2% by 1993.*

Home prices did rise faster than the CPI inflation rate during most of the last 20 years. Over this period, the baby boomers overwhelmed the housing market and home prices soared. As the baby boomers settle down, so should home prices. Conceivably, home prices could fall modestly, but that shouldn't depress consumer spending. The amount of mortgage debt owed by American households is surprisingly low, especially relative to the value of their homes. In fact, the balance sheet of America's households is remarkably conservative: Most of us aren't living beyond our means.

Home prices could fall because, in many areas, they are up to levels that are unaffordable to first-time buyers. And there are fewer first-time buyers because most of the baby boomers are now homeowners, and they are being replaced in the younger age groups by the numerically smaller generation that followed. There are 76 million baby boomers who were born between 1946 and 1964. The baby bust generation, which was born between 1965 and 1976, totals 41 million. The "echo" boom started in 1977. From 1977 to 1987, 40 million babies have been born. Most of them are the children of the baby boomers. The oldest are 11 years of age.

Exhibit 1: Baby Boomers Have Had A Tremendous Impact On Real Estate. School construction peaked during 1968, when the oldest were 22 and the youngest were 4. When they graduated, they moved into apartments and found jobs, often in office buildings. Apartment construction peaked during 1973, about the same time that the baby boomers started to crowd into the single-family home market. Over the next five years, demographic forces are favorable for school construction, unfavorable for apartment and office construction, and neutral for single-family starts.



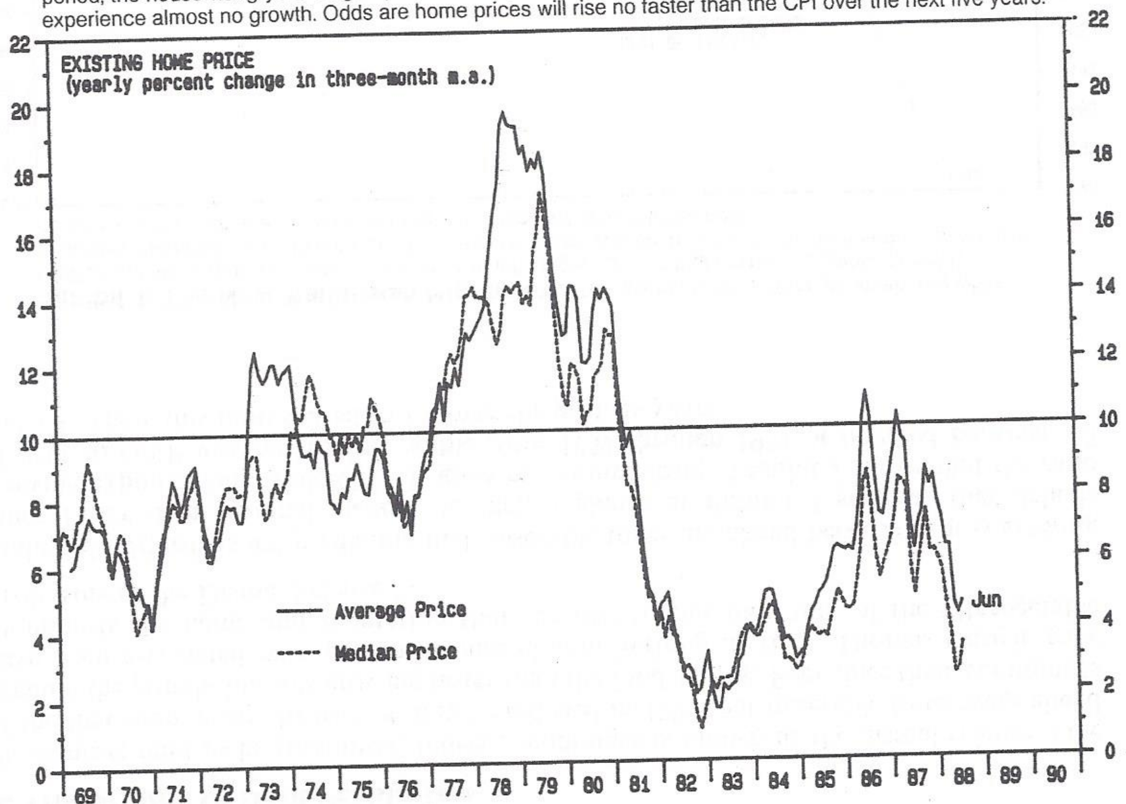
These demographic shifts also suggest that apartment building construction will remain depressed because the demand for rental units will stay soft. Furthermore, the same baby boomers who caused the boom and bust cycle in school construction during the 1960s are doing the same thing to office construction, which is now in the early bust phase (Exhibit 1).

We believe that demographic trends will favor financial assets over real estate assets over the next 5 years. As household formation slows, so should home price inflation. As the baby boomers move into their forties, their "asset-of-choice" is more likely to be a fixed income security than real estate.

II. Will The Bubble Burst?

No, because it wasn't a bubble. Sure, there was plenty of speculative activity during the real estate boom of the past 20 years. But powerful demographic forces were the fundamental cause of the dramatic increase in home values in recent years. The average existing single-family home price increased roughly fourfold from $25,000 during 1970 to $106,000 during 1987. (The CPI rose 193% during this period.) Buy-in-advance attitudes did proliferate around the country during this period. But it wasn't a "tulip" mania. The demand for houses as shelters against the rain (and taxes) simply rose faster than the supply, so prices rose. The country added a million new households every year between 1960 and 1970. Then the baby boom arrived: Between 1970 and 1980 the number of households grew by 1.6 million a year and 1.2 million per year from 1980 through 1987.[5]

Exhibit 2: As The Baby Boomers Settle Down, So Should Home Prices. The average single-family home price increased at a compounded annual rate of 8.6% from 1970 to 1987. Over this same period, the house-hungry 25-44 group rose sharply. Over the remainder of the century, this group will experience almost no growth. Odds are home prices will rise no faster than the CPI over the next five years.

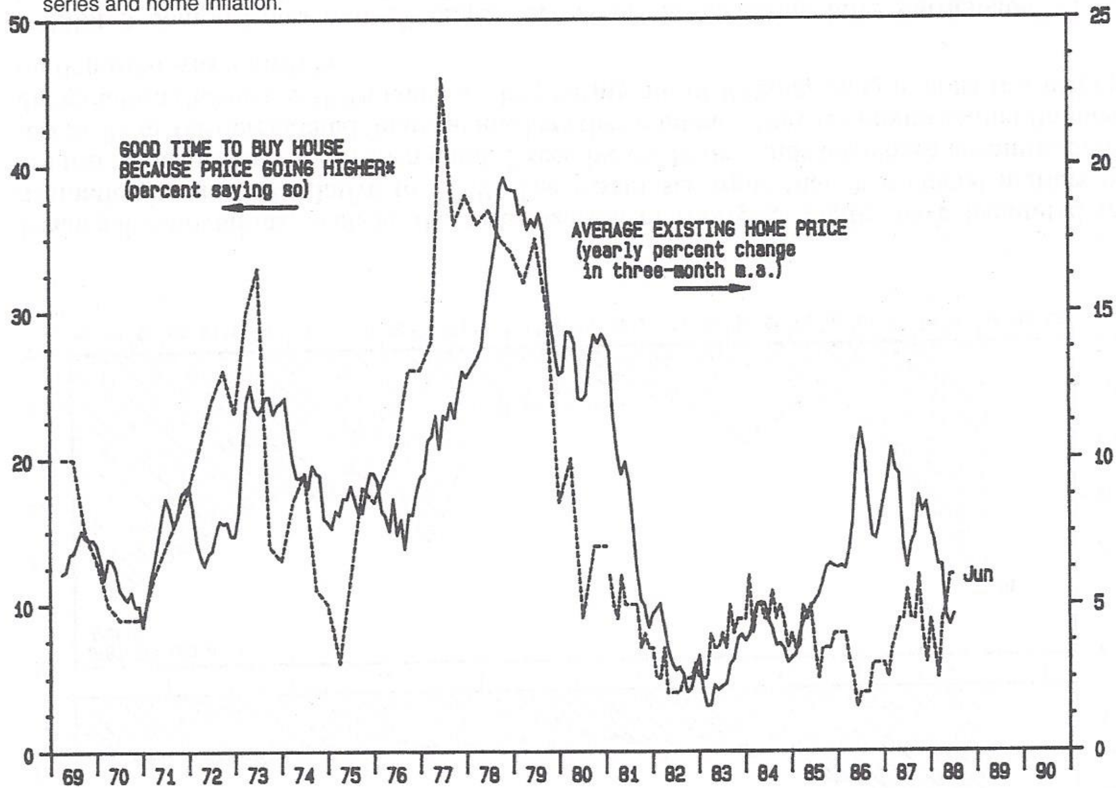


Source: National Association of Realtors

[5] U.S. Bureau of the Census, *Households, Families, Marital Status, And Living Arrangements: March 1987*, Current Population Reports, Series P-20, No. 417, issued August 1987.

Exhibit 2 shows the year-over-year percent changes in the average and median single-family existing home sales prices. From 1969 to 1972, the appreciation rate fluctuated between 4% and 9%. From 1973 to 1976, the range was 7% to 12½%. The most spectacular move occurred between August 1976 and October 1978 as house price inflation soared from 6.9% to a record peak of 19.6%. Heightened buy-in-advance attitudes did contribute to the rapid rise in home values around this time. Data collected by the Survey Research Center of the University of Michigan show that the percent of the population reporting that "now is a good time to buy a house because prices are going higher" jumped from only 6% during the first quarter of 1975 to a peak of 46% during the second quarter of 1977, and remained above 30% until the fourth quarter of 1979 (Exhibit 3).

Exhibit 3: Buy-In-Advance Attitudes Towards Houses Remain Low. Survey data show inflationary expectations rose sharply during the previous decade from a trough of 6% during the first quarter of 1975 to 46% during the second quarter of 1977. Currently, only 12% of survey respondents hold buy-in-advance opinions. Notice, that there is roughly a 2-to-1 relationship between the buy-in-advance series and home inflation.



*Survey data are quarterly until 1980, then monthly. Survey Research Center, University of Michigan.

After peaking at 19.6% during October 1978, the pace of home price increases slowed, but remained in double-digit territory until the spring of 1981. During 1981 and 1982, interest rates rose to extraordinary heights and the economy fell into a terrible recession. Home prices continued to rise but fell below 3% during 1982. According to the biennial Home Buyer Survey conducted by the U.S. League of Savings Institutions, the percent of first-time buyers fell from 36.3% in 1977 to 17.8% in 1979 and 13.5% in 1981.[6]

Falling interest rates and economic recovery from 1983 to 1986, unleashed pent-up demands for housing, particularly by the baby boomers. The percent of first-time buyers jumped to 40% in 1983 and was 39% in 1985. Home price inflation rose again to slightly over 10% during the spring of 1986, but then trended lower. Currently, the rate of price appreciation is 4.6%. Since 1981, the percent of households expressing buy-in-advance attitudes has hovered in a very low range, between 3% and 12%.

[6] U.S. League of Savings Institutions, *Homeownership: A Decade Of Change* (Chicago, 1988), pp. 36-37.

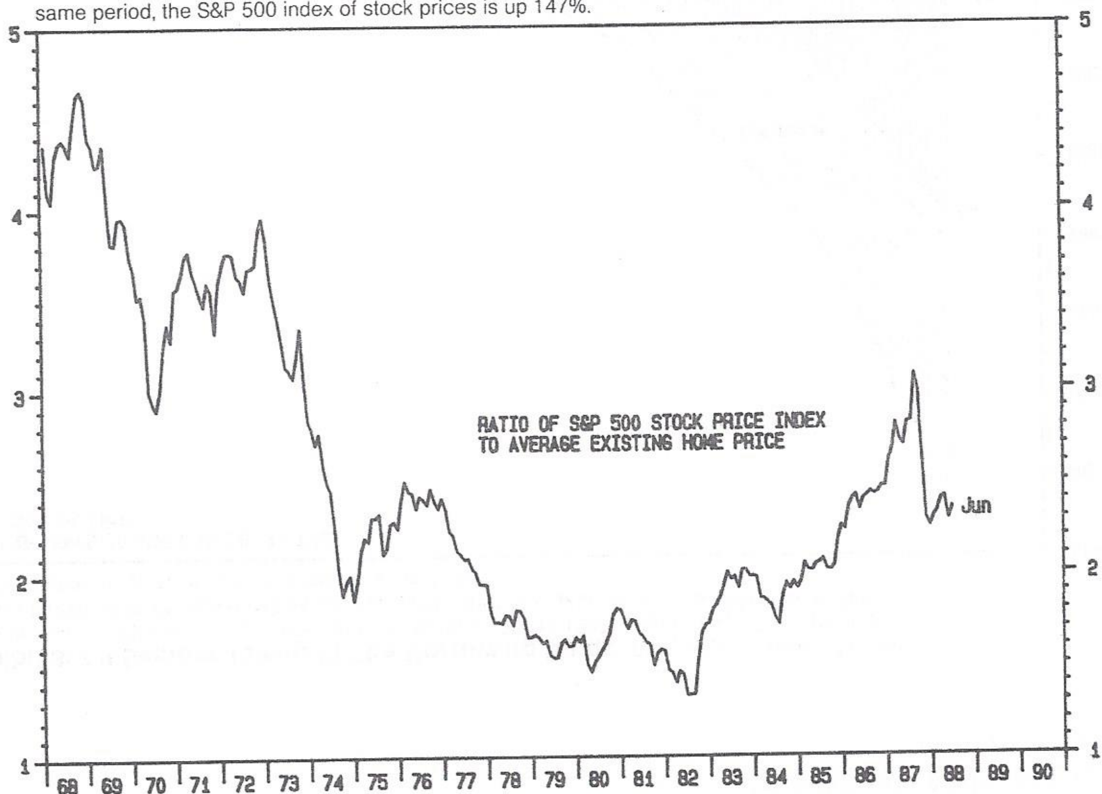
The rise in interest rates since early 1987 might explain why home price inflation has fallen so sharply over the past 18 months. But we believe that other forces are at work, as well. In the early seventies, the oldest baby boomers turned 25 and started to swell the traditionally house-hungry 25-44 year old group. From 1970 through 1987, housing transactions, i.e., housing starts plus existing home sales, totalled 80 million units. Remember that there are 76 million baby boomers. So odds are that most of this group own their homes by now. Of course, many of the younger baby boomers are still potential first-time buyers. But, during 1987, the percent of first-time buyers fell to 35.1% from 39.1% during 1985. For many of them, home prices have been driven to unreachable levels. The law of supply and demand suggests that the prices of houses, particularly starter units, must fall to reachable levels.

Baby boom homeowners don't have much economic incentive to trade up because there are fewer first-time buyers who can fuel the rapid pace of home price increases generated by the baby boomers during the 1970s and most of the 1980s. During that period, rapid home price appreciation created a tremendous incentive to buy a bigger house with a bigger mortgage. But now prices of homes bought by repurchasers are also likely to rise at a much slower pace, especially if many baby boomers decide to stay put. If the yuppies really are becoming couch potatoes, then they are more likely to build another room rather than to move to a bigger house.

III. Houses Versus Bonds

And instead of trading up to a bigger house and a bigger mortgage the baby boom crowd might decide that prepaying their mortgages is a very good investment! Marginal income tax rates were reduced significantly in 1987. As a result, mortgage interest expenses (which are still deductible) shelter less income from taxes.

Exhibit 4: On A Trend Basis, Stocks And Bonds Have Been Beating Houses Since 1982. From June 1982 through June 1988, the average existing home price is up 40%. Over the same period, the S&P 500 index of stock prices is up 147%.



In our Topical Study #13: *The Coming Shortage Of Bonds* (June 20, 1988), we predicted that if the baby boomers settle down (instead of trading up), then they'll borrow less and save more. In other words, the flow of funds into credit market instruments like CDs, money funds, and bonds should outstrip the demand for credit, particularly mortgage credit. Of course, mortgage prepayments reduce the outstanding supply of debt. This scenario is clearly very bullish for bonds and stocks.

Exhibit 4 shows the performance of the S&P 500 index of stock prices relative to the average existing home price. From 1968 through the summer of 1982, there was no contest: Real estate beat financial assets by a mile. From January 1968 through June 1982, the home price soared 278%; while the S&P 500 increased 15.4%. Since 1982, financial assets have beat real estate. Our demographic analysis suggests more of the same for the next five years.

IV. Within Our Means

If real estate prices do fall could an economy-wide depression unfold? Would homeowners be forced to sell at distressed prices? Would a deflationary spiral unleash a financial collapse?

We don't think so. Exhibits 5 through 7 are based on annual survey data which *Money* magazine has been collecting since 1983. The survey is a scientific sampling of all American households; it is not limited to subscribers of the magazine. We've checked many of the survey's results against other statistical sources and found that the *Money* magazine survey is very reliable.[7] In fact, it's hard to believe that the survey, which offers so much insight into the financial behavior of American households, has been overlooked by economists.

The proportion of American households who own their own home has held fairly steady around 70% in recent years (Exhibit 5). It isn't surprising that homeownership is so widespread. It is surprising that mortgage debt isn't very widespread or very burdensome. During 1987, only 40% of American households had a mortgage loan. Of course the two figures just cited imply that 57% of homeowners owe money to a mortgage lender. But, on average, such loans amounted to only 25% of the estimated home value in 1987 (Exhibit 6). This loan-to-value ratio rises with income from 12% for households with annual income under $15,000 to 41% for households with $50,000 or more. So the greatest mortgage debt loads are being carried by households who have the most financial resources.

Exhibit 5: Household Use Of Debt—*Money* Magazine Survey

	1987	1986	1985	1984	1983
Own primary residence	69%	71	70	70	na
Have mortgage	40	44	43	44	48
Have other loans	50	58	52	51	48
Have loans	66	72	70	70	74
Have no loans	34	28	30	30	26
Have home equity loans	10	na	na	na	na
Have credit cards	77	79	79	81	82
Used in last 12 months	70	72	72	73	74
Not used in last 12 months	30	28	28	27	26
Pay full amount each month	47	na	44	na	na

[7] *Americans & Their Money: The Fifth National Survey*, (New York: *Money* Magazine, 1987).

Exhibit 6: Mortgage Burden Rises With Income—*Money* Magazine Survey

	1987 Household Income					
	All Incomes	$50,000 Or More	$35,000 -$49,000	$25,000 -$34,000	$15,000 -$24,000	Under $15,000
Mortgage Loan	$20,900	$ 59,300	$32,200	$22,500	$13,600	$ 6,300
Estimated Home Value	$83,600	$144,000	$83,900	$75,900	$53,000	$53,000
Loan/Estimated Value	25%	41%	38%	30%	26%	12%

Most households tend to underestimate the value of their homes. For example, the actual average sales price of existing single-family homes exceeded the estimated value from the *Money* magazine survey by 27% during 1987. So in 1987, the loan-to-value ratio was 20% using the actual average sales price versus 25% using the subjective appraisal of the average American homeowner.

Interestingly, in our Topical Study #12: *How The Baby Boomers Are Changing The Economy* (April 6, 1988), we came up with almost the same figure. We divided data collected by the Federal Reserve on total residential home mortgages by the number of American households. At the end of 1987, the average mortgage loan per household was $23,100. That's 21.3% of the average price of existing home sales, and not significantly different from the 20% figure derived above using *Money* magazine's loan statistic.

The *Money* magazine survey can be used to construct a balance sheet for the average American household. We do this in Exhibit 7. In 1987, the average household had assets totalling $127,800 consisting of a savings portfolio (excluding real estate) of $44,200 and a home with a value of $83,600, as appraised by the homeowner. Total loans summed to $28,600, so net worth was $99,200. Not bad! And we left out the market value of cars, furniture, and equity in personal businesses. Moreover, it isn't obvious that most people remember the present value of their insurance policies and retirement benefits when they respond to a survey of their assets.[8]

Exhibit 7: The Average Household's Balance Sheet—*Money* Magazine Suvey

	Savings*	Estimated Home Value	All Loans	Mortgage Loans	Other Loans	Net Worth**
1987	$44,200	$83,600	$28,600	$20,900	$7,700	$99,200
1986	39,900	82,400	29,900	20,300	9,600	92,400
1985	38,500	77,600	24,200	17,900	6,300	91,900
1984	35,800	74,900	22,500	17,100	5,400	78,200
1983	34,900	na	25,200	19,400	5,800	na

*Excluding real estate.
**Savings plus estimated home value less all loans.

Clearly debt isn't burdensome relative to assets. How does it look relative to income? The Survey Research Center of the University of Michigan conducted Surveys of Consumer Finances in 1970, 1977, 1983, and 1986. The data has been analyzed extensively by economists at the Board of Governors of the Federal Reserve System, which sponsored the surveys.

For example, in the October 1987 *Federal Reserve Bulletin,* Robert Avery and two other Fed economists used the survey data to examine changes in consumer installment debt.[9]

[8] Wealth holdings are concentrated in the top of the income distribution. In 1984, the top 12% of the income distribution owned 38% of total net worth; the bottom 26% of the income distribution owned only 10% of total net worth. See Bureau of the Census, *Household Wealth And Asset Ownership: 1984*, Current Population Reports, Series P-70, No. 7, issued July, 1986.

[9] Robert B. Avery, Gregory Elliehauser, and Arthur B. Kennickell, "Changes In Consumer Installment Debt: Surveys Of Consumer Finances," *Federal Reserve Bulletin* (Washington, D.C., October 1987), pp. 761-778.

The following table appears in the article. Mr. Avery and his colleagues observe that while the aggregate ratio of installment debt to disposable income has increased sharply from 14.2% in 1970 to 19.6% in 1986, the survey-based ratio of payments to income has changed only slightly over the past 16 years (Exhibit 8). "This finding can be explained by a gradual lengthening of contract maturities and, more recently, a decrease in interest rates," they write. For a given loan amount, a longer maturity reduces the rate at which the debt must be repaid. The Fed study also reports that "more than 80 percent of the families that have consumer installment debt also have financial assets or home equity sufficient to permit liquidating their debts in emergencies. This finding appears to hold for more than half of the families with high payments relative to their income." Exhibit 5 shows that in 1987, about half of those who have credit cards paid the full amount owed each month.

Exhibit 8: Debt Payments Remain Flat Relative To Income

	1970	1977	1983	1986	Memo: Weighted average 1970-86
*Aggregate data**					
Consumer installment debt outstanding (billions of dollars)	100.5	210.0	337.0	551.8	253.8
Annual compound rate of change from preceding period	—	11.2	8.2	17.9	11.2
Ratio of installment debt to disposable income	14.2	15.1	14.1	19.6	15.0
Survey-based data					
Payments per month (billions of dollars)	2.7	5.0	7.7	10.6	5.8
Annual compound rate of change from preceding period	—	8.1	7.3	11.5	8.4
Families with debt	52.6	56.4	56.9	58.5	55.9
Mean ratio of debtors' payments to income	10.4	10.9	9.3	10.0	10.2

*Figures in this table are based on data supplied by families with a head 25 years of age or more (see text for source).

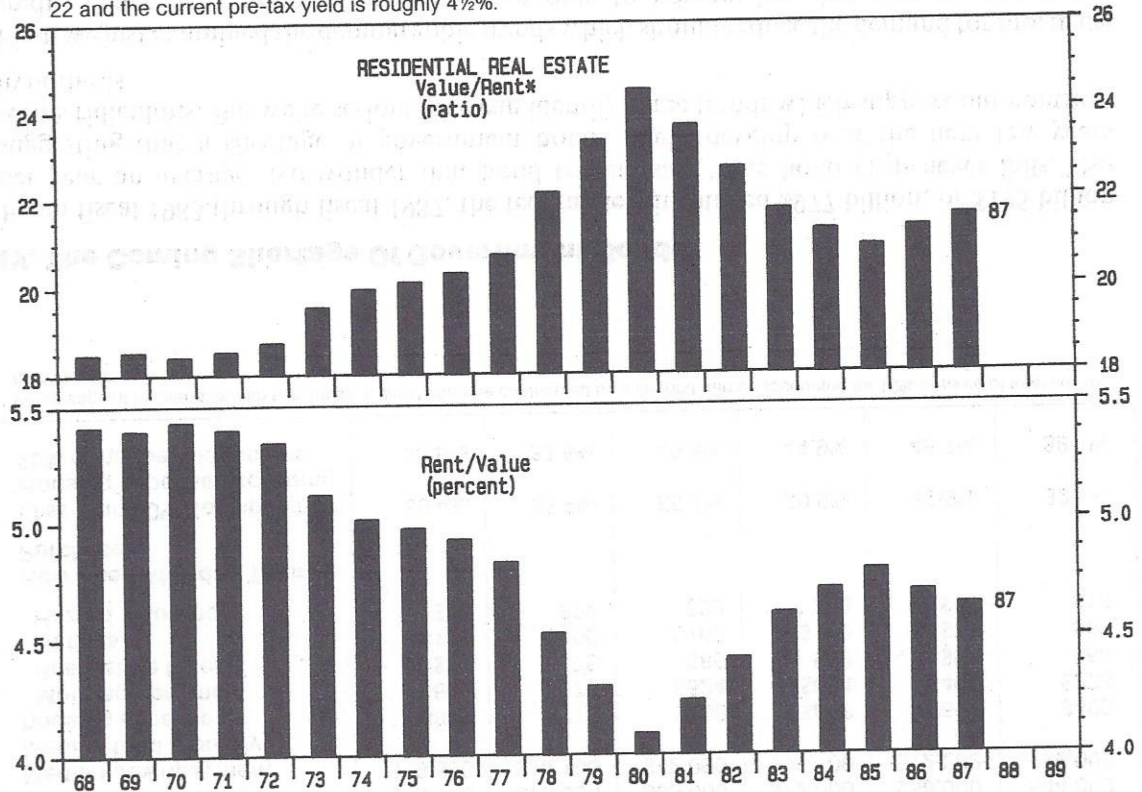
V. The Price-To-Rent Ratio

Stan Salvigsen suggests that home prices are set to crash the way stock prices crashed last year. "Because the investment value of a property is a function of the income it produces, the relationship between the price paid and rent received is very similar to the price/earnings ratio on stocks," he told *Barron's*. "When prices are rising much more rapidly than rents—as they have been—the owner is expecting capital gains to compensate for the lower yield. It's very much like stock valuation last summer," he added.

To understand Mr. Salvigsen's point better, we devised the price-to-rent ratio which is shown and explained in Exhibit 9. The average existing home price rose from a bit more than 18 times rent in the early 1970s to a peak of 24.5 times rent in 1980. The ratio then fell to 21 by 1985 as rents rose faster than prices. It edged back up to 21.6 in 1987.

A home price of 22 times rent is high. But that doesn't lead to the conclusion that a crash is virtually inevitable. For example, the ratio could drop to 19 over the next five years if prices simply remain unchanged while rents rise 3% per year. Besides, maybe residential real estate deserves a higher multiple than stocks because rent growth has been much more predictable than earnings growth.

Exhibit 9: Is Real Estate Overvalued? The price-to-rent ratio for single-family homes is nearly 22 and the current pre-tax yield is roughly 4½%.

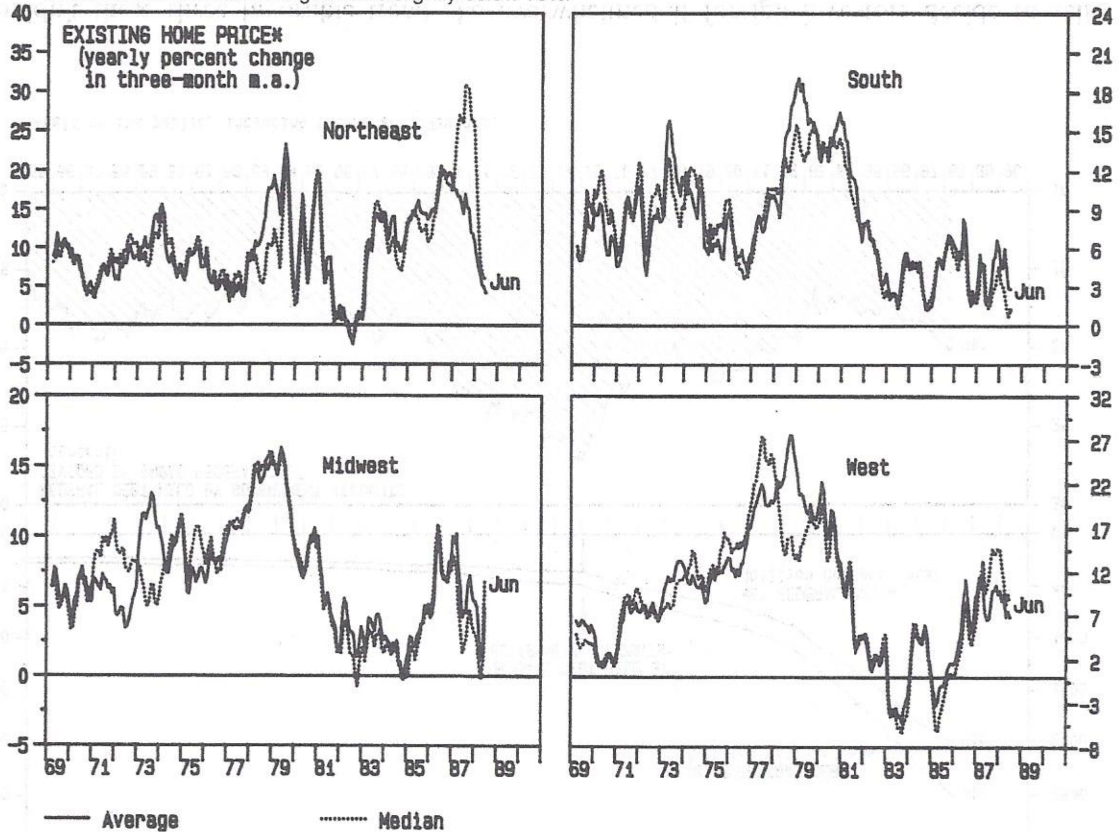


*Rent is personal consumption expenditures on owner- and tenant-occupied rent. Value is estimated by multiplying the average existing home sales price by the number of households.

VI. Conclusions

We're just as bullish on the outlook for bonds over the next five years as Salvigsen & Co. However, we don't share their grim view of why interest rates will fall. They expect that the "rolling depression" is about to roll over real estate. We anticipate "rolling recessions" which will depress different sections of the country at different times. Home prices could fall in those regions of the country that are experiencing a recession. But prices should continue to rise in cities and suburbs that remain prosperous (Exhibit 10). Bond yields should move into the low single-digits, and the national rate of real estate appreciation should remain there because of the demographic trends related to the aging of the baby boom.

Exhibit 10: Regional Home Inflation Rates Are All In Single-Digits. The Northeast experienced record gains particularly for median houses in 1987. For a brief time, these houses experienced a 30% jump in values. Now, the rate is close to 6%. In the South, the rate is very low, near 3%. Prices in the West are rising at rates slightly below 10%.



Topical Studies

#1 Dr. Edward Yardeni, *Exports Should Weaken U.S. Recovery,* March 22, 1983

#2 Dr. Edward Yardeni, *The Ten Pillars Of Faith,* April 6, 1984

#3 Deborah Johnson, *Behind The Corporate Borrowing Binge,* June 13, 1984

#4 Dr. Edward Yardeni, *Why Has The Leading Index Of Inflation Failed So Badly?,* October 24, 1984

#5 Dr. Edward Yardeni, *The Case For Lower Oil Prices,* December 12, 1984

#6 Dr. Edward Yardeni, *The True Story Behind The Mighty Dollar,* January 9, 1985

#7 Dr. Edward Yardeni, *Plenty Of Cash Around To Fuel Additional Stock And Bond Gains,* January 30, 1985

#8 Dr. Edward Yardeni, *No Shortage Of Gluts,* July 10, 1985

#9 Dr. Edward Yardeni, *The Protectionist Road To Depression,* September 9, 1985

#10 Dr. Edward Yardeni, *The U.S. Becomes The World's Largest Debtor, So What?,* July 14, 1987

#11 Dr. Edward Yardeni and Deborah Johnson, *The Restructuring Of Corporate America Is Bullish,* December 9, 1987

#12 Dr. Edward Yardeni, *How The Baby Boomers Are Changing The Economy,* April 6, 1988

#13 Dr. Edward Yardeni, *The Coming Shortage Of Bonds,* June 20, 1988

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