The Rise and Fall of the American Residential Equity Empire

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About the Author

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Introduction

Social Security and defined benefit pensions form two of the three important components to retirement wealth. While Social Security is in fine shape for decades to come, the number of workers with private defined benefit pensions has dramatically declined in the past couple of decades. The third plank of retirement security – private savings – had been nearly nonexistent for several years. For most households, private wealth building had been principally focused on homeownership. As families build up equity in their homes, they may sell their houses at retirement, converting the equity into financial assets, or continue to live in the house in lieu rent and mortgage-free.

In the long run, a homeowner who is overly optimistic as to the value of their residence and so lacks the necessary equity will find neither option is available at retirement. A homeowner who overestimates the sale price of the family house will consume more than one who perceives the price more accurately. If house prices are rising quickly in the midst of a bubble, such behavior is magnified. When prices return to historical levels, the household finds itself with much less wealth for retirement and must recapitalize by cutting back on consumption.

The macroeconomic consequences are very real. When households do start consuming less and resume saving, businesses find themselves with excess capacity. They stop investing and begin laying off workers. Those who lose their jobs make further cuts in spending and the vicious cycle continues with even greater overcapacity and additional job loss. Shrinking consumption and investment may be partially offset by reduced imports, but when the crisis is global, exports fall as well. Thus government deficit spending becomes the last remaining source of economic growth.

Absent the housing bubble, households would not have consumed as much in the past, but they would have been left with more wealth and consumed more in the future. This reflects not merely a shift in spending from the past to future, but a real increase in income as well. Had we avoided the deep recession of the bursting bubble, greater employment today would have left households with both greater savings and greater spending.

The Bubble in Home Prices

From 1890 to 1995, real home prices rose only 10.3 percent – less than 0.1 percent per year for more than a century. Yet from 1995 to 2006, real home prices spiked nearly 84 percent. It was clear back in 2002, when home prices were up only 29 percent, that much of the metropolitan United States was experiencing a bubble market in real estate. The bubble peaked in 2006, and by late 2008 prices had already fallen more than 28 percent from that peak – back to where they were in 2002.[1]

Yet there was a general failure to recognize that the run-up in house prices was unsustainable. Though few economists understood this early in the bubble, most denied that anything but fundamental conditions drove the unprecedented growth in home prices. Consequently, homeowners and prospective homeowners were misled into questionable decisions with their

1 Data from Robert Shiller http://www.econ.yale.edu/~shiller/data.htm

money. As their homes appreciated spectacularly, homeowners rushed to refinance their mortgages, cashing out their equity. Prospective buyers rushed to buy with little-to-no money to offer as down payment lest they be "priced out of the market" as real estate agents warned. Lending institutions were all too happy to lend to these marginal buyers, for as long as home prices continued to skyrocket, the risk seemed nonexistent. In the bubble market, owners could easily sell their homes at a handsome profit rather than fail to pay the mortgage and lose their homes to the bank.

As a result, at the end of 2006 homeowners owed mortgages equal to 45 percent of the market value of their homes – compared to 42 percent in 1995.[2] Once home prices fell, homeowners found they had far less wealth in their homes – a total loss of more than 5.8 trillion dollars since the end of 2005, or 44 percent of the peak in home equity. This actually understates the losses to homeowners as reported assets and mortgages are net of foreclosures.[3]

The Bubble was Obvious

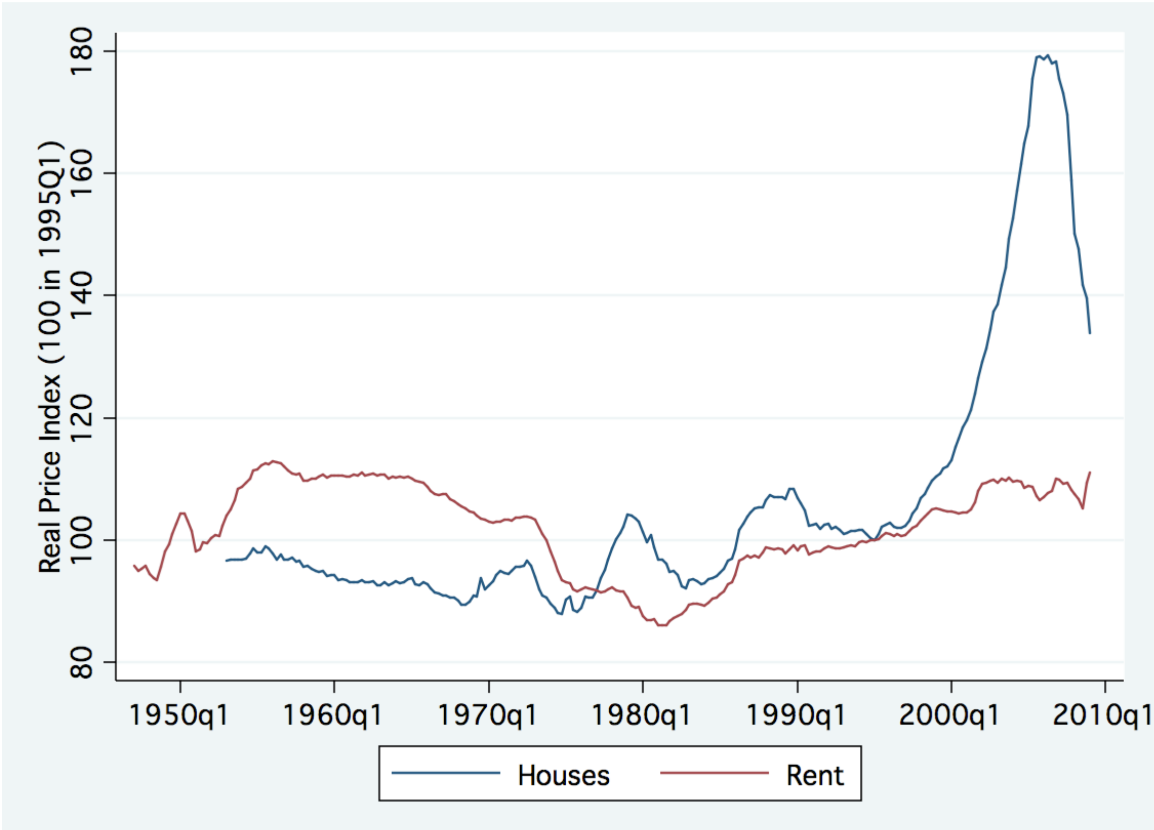
Adjusted for inflation, home prices do not appreciate in value in the long run. **Figure 1** shows real home prices indexed to the first quarter of 1995.[4] In the 42 years from the first quarter of 1953 to the first quarter of 1995, real house prices rose a total of 3.4 percent. Over the next eleven, real prices grew on average 5.4 percent *per year*, with the year-round growth rate peaking in 2004 at more than 11 percent. The 5 percent rate of growth in home prices in the early years of this run-up was not wholly unprecedented, as this also happened in the late 1970s and late 1980s. However, these price booms were relatively short and similarly sized price busts immediately followed each.

2 As the population aged and the baby-boomers drew nearer to retirement, we might have expected households to pay down their debts and thus expected mortgages to constitute a smaller, not larger, percentage of the value of their homes.

3 Suppose a household purchased a house for $300,000 at the end of 2006 with no down payment. If it still held the house in late 2008 at a price of $220,000, the household would have negative equity of $80,000. As soon as the bank forecloses, this negative equity is erased from the household balance sheet, essentially "creating" $80,000 in additional equity.

4 Nominal home prices follow the Bureau of Labor Statistics' Consumer Price Index for home purchases 1953-1974, the Office of Federal Housing Enterprise Oversight's Housing Price Index 1975-1999, Standard and Poor's Case-Shiller National Index for 2000-2004, and LoanPerformance's National Index for 2005-2008. Nominal home prices are then deflated by the BLS' CPI (less shelter).

FIGURE 1
Real House and Rent Prices



By 2002, with real house prices more than 35 percent above 1995 values, continued price increases seemed unlikely. While many explanations were offered (such as a preference for moving back into revitalized cities and constraints on land use) none could similarly explain how rent prices failed to jump along with house prices. Clearly, if people were suddenly willing to pay 30, 50, or 80 percent more to own homes because they were in the city or land was scarce, then it would be reasonable to expect people to pay similarly to rent. There was no rational explanation for why households would demand suddenly to own a home rather than rent.

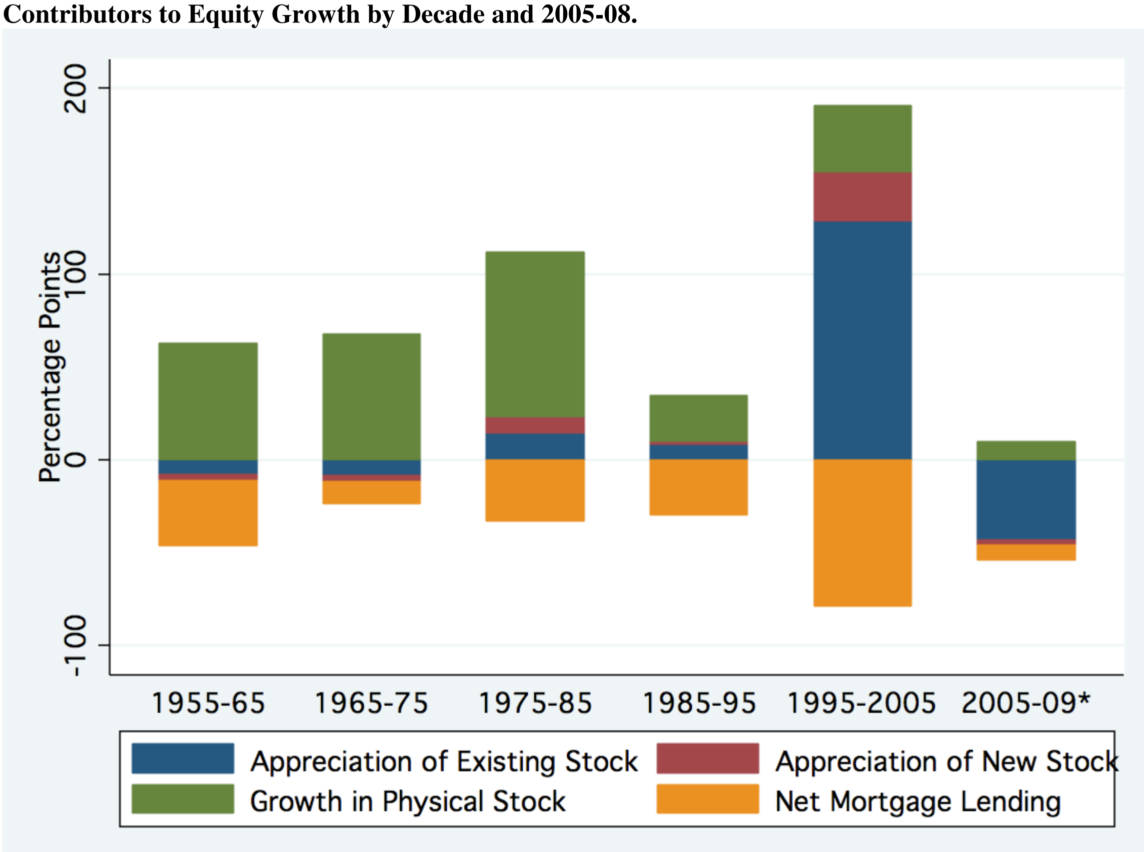
With prices going up, so long as people believed that prices would continue to rise (or believe that they always had) there was reason to "buy now", lest another year of price increase go by, making it even more difficult to buy a home. The logic was unassailable for both buyers and lenders. If house prices would rise in real terms by 5 percent a year, then any mortgage loan was a good loan. Even if the person had a bad credit history or all the information on a mortgage application was untrue, it didn't matter. If the home went into foreclosure, the lender was getting an asset that should easily cover the mortgage since it would have risen in value substantially after the mortgage was issued.

This logic from lenders changed the equation for potential homebuyers. A household with few resources could purchase a house with no money down. If the house was going to be worth fifteen percent more in two years, it could be sold at a profit, even after paying taxes and realtors. While the logic was unassailable, the premise was not. Prices would not keep rising, and when prices began to fall, borrowers and lenders alike found themselves in trouble. Similarly, many of those who already owned saw their homes' prices increase rapidly and took the opportunity to cash out.

As Prices Rose, Equity Rose Far Less Quickly

From the fourth quarter of 1975 to the fourth quarter of 1985, real home equity – the current value of homes minus the amount of mortgage debt on them – rose 79 percent. The largest contributor to the growth in equity over those ten years was an increase in the physical stock of residential real estate, contributing 89 percentage points to growth in home equity. Net mortgage lending over the period removed 33 percentage points from equity growth. While real appreciation of new and existing homes added a modest 23 percentage points to equity growth, this followed depreciation over the previous two decades, as seen in **Figure 2**.

FIGURE 2
Contributors to Equity Growth by Decade and 2005-08.

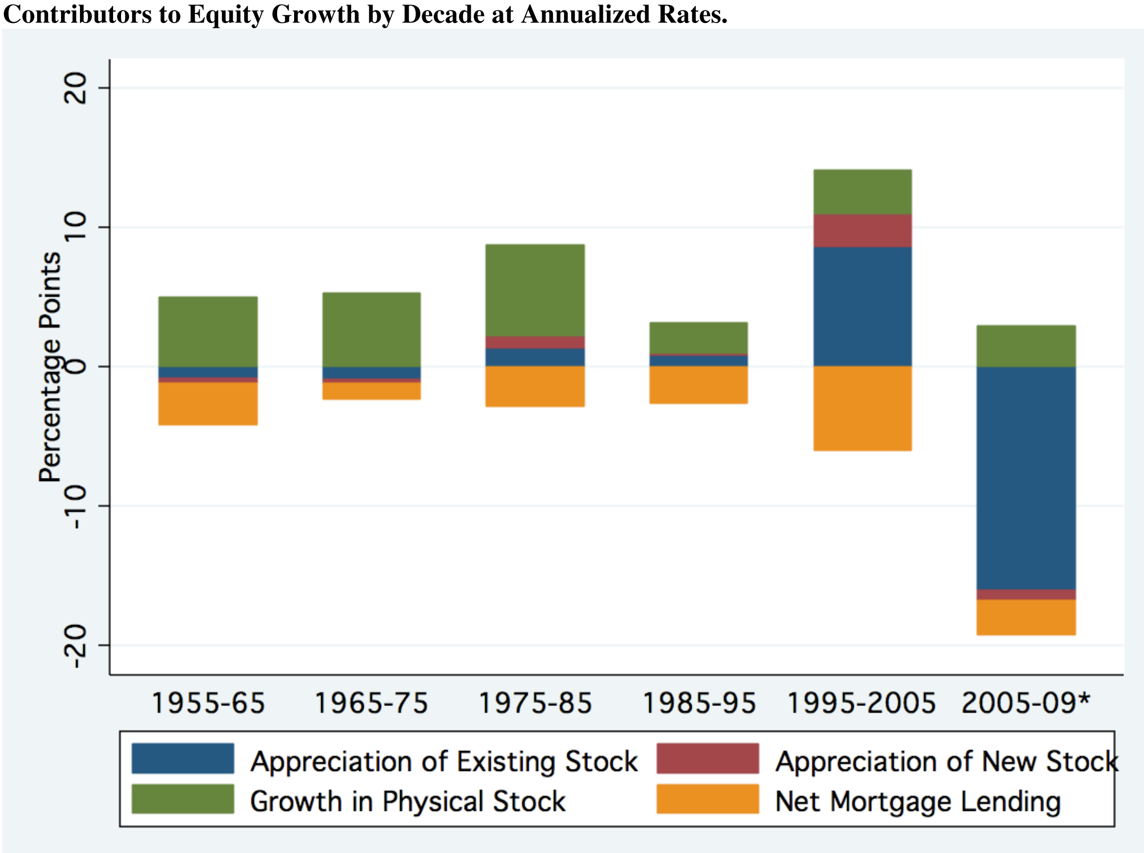


* 2005-09 includes the first quarter of 2009. All other periods refer to the fourth quarter of the year.

Similarly, from the fourth quarter of 1995 to the fourth quarter of 2005 (the latter representing the peak of real home equity) home equity grew 112 percent. However, over those ten years, households increased equity in very different ways than in previous decades. Net mortgage lending removed 79 percentage points from equity growth, and the stock of homes contributed only 36 percent percentage points. Rather than gaining equity by building homes, real price appreciation of the 1995 stock of homes accounted for 128 percentage points of increased equity and appreciation of homes constructed since 1995 another 27 percentage points – a gain of more than $9.6 trillion.

By contrast, equity has fallen rapidly in the last three years. After an increase in equity of $7 trillion from 1995-2005, the next three years saw a fall of $5.8 trillion in equity – $6 trillion of which was due to price depreciation just through the first quarter of 2009. Prices have continued to fall at a 21 percent annualized rate through the first four months of 2009. This rate of decline in equity is understated in Figure 2, which shows total contributions to equity growth over the periods. The 2005-09 period has little more than three years in comparison to previous decades, so **Figure 3** shows exactly the same data, but at annualized rates.

FIGURE 3
Contributors to Equity Growth by Decade at Annualized Rates.

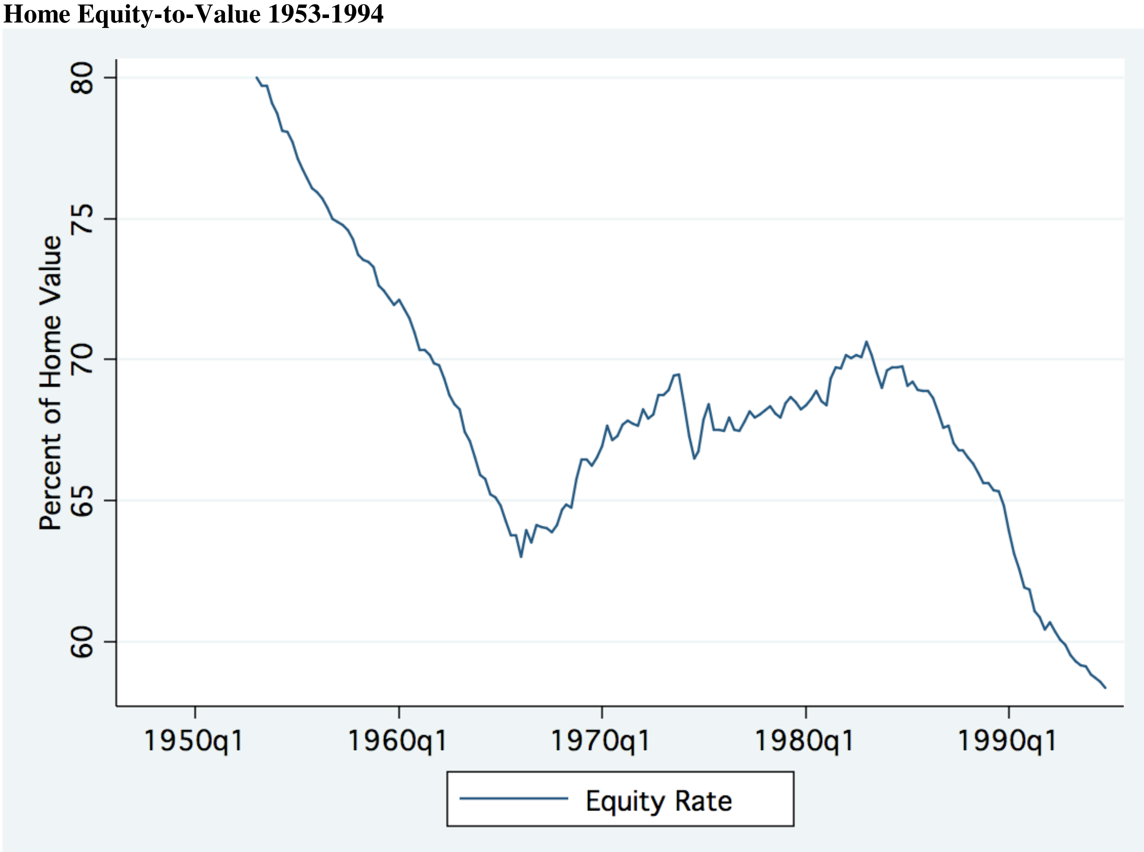


From the previous equity peak in the third quarter of 1989 to the latest peak in the fourth quarter of 2005, equity rose by 6.4 trillion dollars, or 93 percent. Three years later, 91 percent of that gain has been wiped out.

What Might Have Been

While past decades had seen growth in real equity, equity rates had not changed greatly. As the physical stock of homes grew, the new homeowners filling the homes began with less equity relative to the price of the home than the average homeowner. For example, if the average mortgage totals 20 percent of the home's worth, but the number of homeowners doubles and the new mortgages total 80 percent of the home's worth, then the equity rate falls from 80 percent to 50 percent even though equity has grown 25 percent. This is what we observe in the equity rates of the 1950s and early 1960s. While real equity rose from 1955-1965, the equity share of home value fell from 76 percent to 64 percent. This trend was partially reversed over the next two decades as baby boomers began to pay down their mortgages. By the mid 1980s, however, equity rates began to fall once again. This history is shown in **Figure 4**.

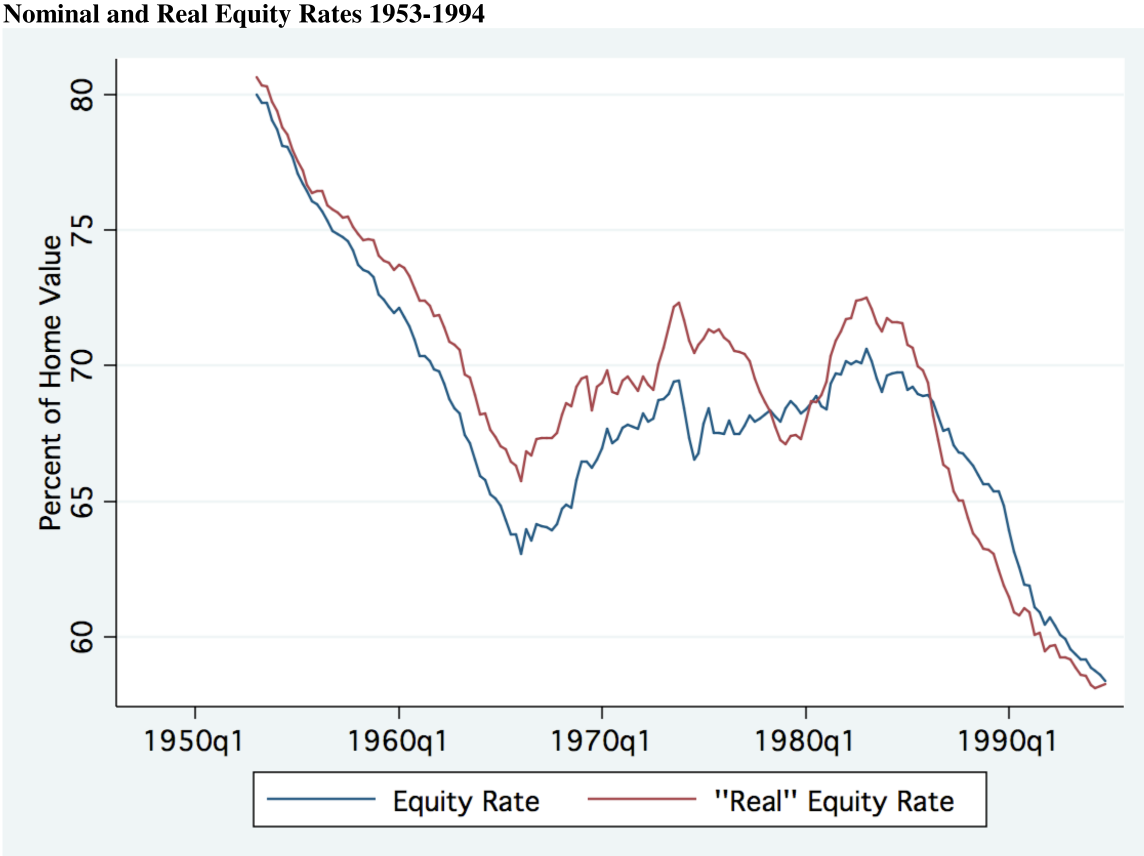
FIGURE 4
Home Equity-to-Value 1953-1994



With the baby-boomers beginning to near retirement, home equity rates ought to have been higher than in recent decades. Instead, by 1995 equity rates were at record lows. Over this period of time, relative stability in home prices meant that prices did not affect equity rates significantly. To see this, we may construct an alternative equity rate by assuming that home prices follow inflation generally –

in essence taking out short-run home price effects.[5] As **Figure 5** shows, this "real" equity rate for more than four decades changed the story very little.

FIGURE 5
Nominal and Real Equity Rates 1953-1994



To understand what this means, consider the mid 1960s. The "real" equity rate bottomed out at 66 percent in 1966, compared to a nominal rate of 63 percent. This difference is due to the fact that home prices appreciated over the thirty years – meaning if in 1966 home prices had suddenly spiked to 1995 values, then the equity rates would have jumped three percentage points. The reverse would have been true in the late 1980s – home prices fell slightly from the late 1980's to the mid 1990's, so the 1988 equity rate would have been two percentage points lower at 1995 prices.

Suddenly in 1995, residential real estate began to appreciate greatly. While equity rates appeared to stabilize over the next decade, the real rate fell precipitously, as seen in **Figure 6**.

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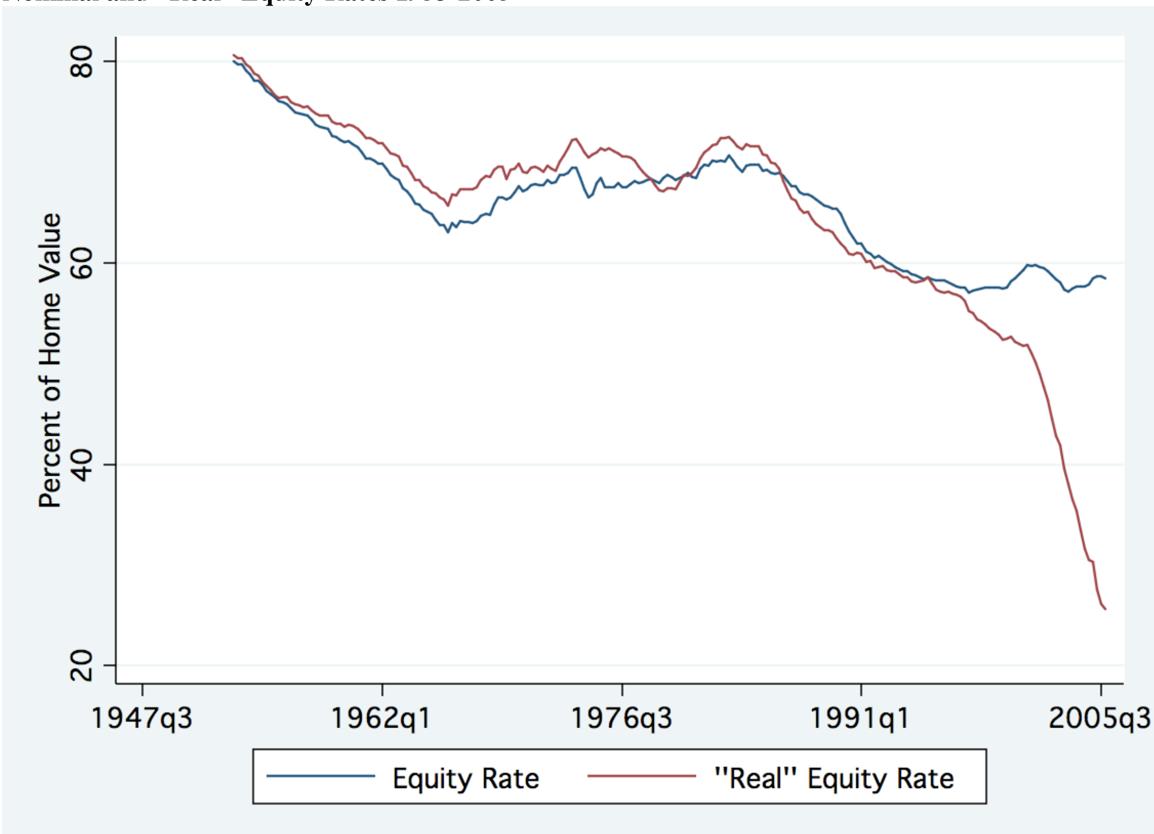
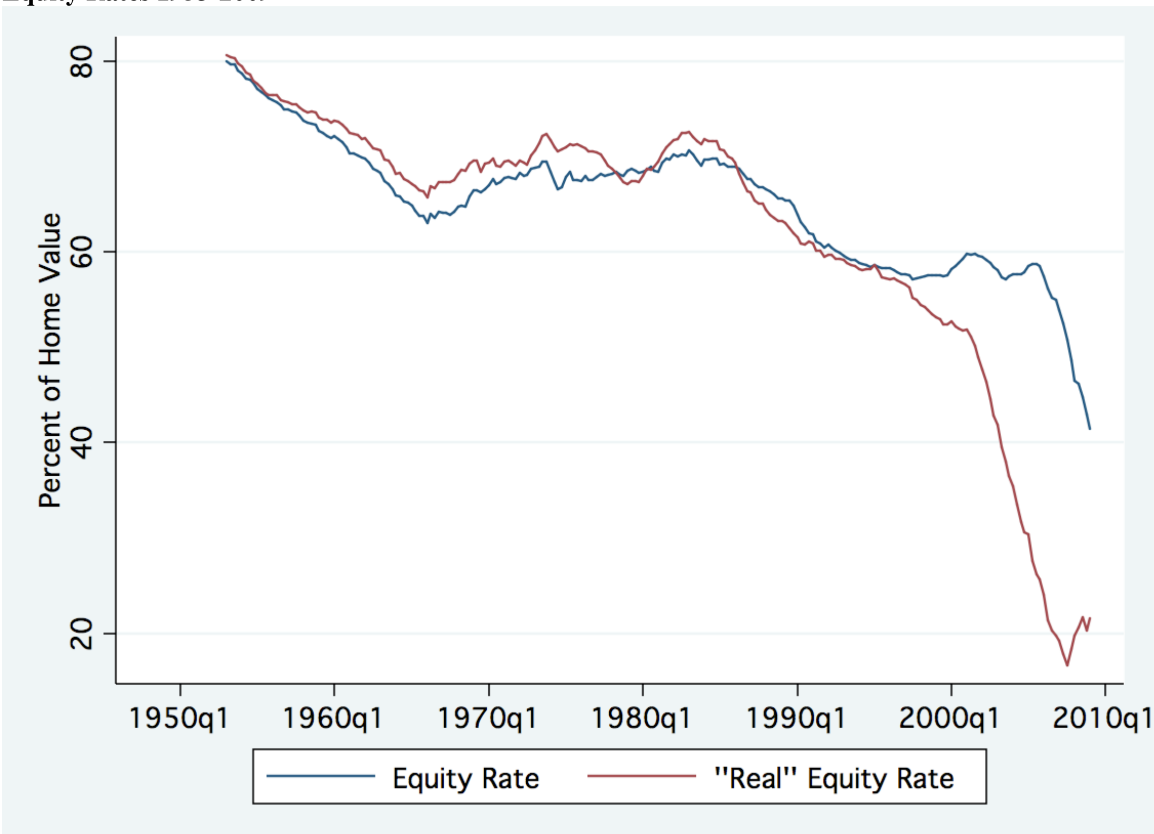
5 This assumes that home prices adjust in the long run, so if the real price of homes double, they must later fall by half rather than all other prices doubling.

FIGURE 6
Nominal and "Real" Equity Rates 1953-2005



By the end of 2005, an immediate return to 1995 house values implied an equity rate of only 26 percent – a fall of 33 percentage points in equity-to-value. Of course, a fall in home prices would be fast, but not that fast. As prices fell, some homeowners worked to pay down their mortgages. Others fell behind on payments and banks foreclosed on those owners. New homeowners were expected to make more substantial down payments. All of these debt-side factors helped slow the fall in equity rates seen in **Figure 7**.

FIGURE 7
Equity Rates 1953-2009

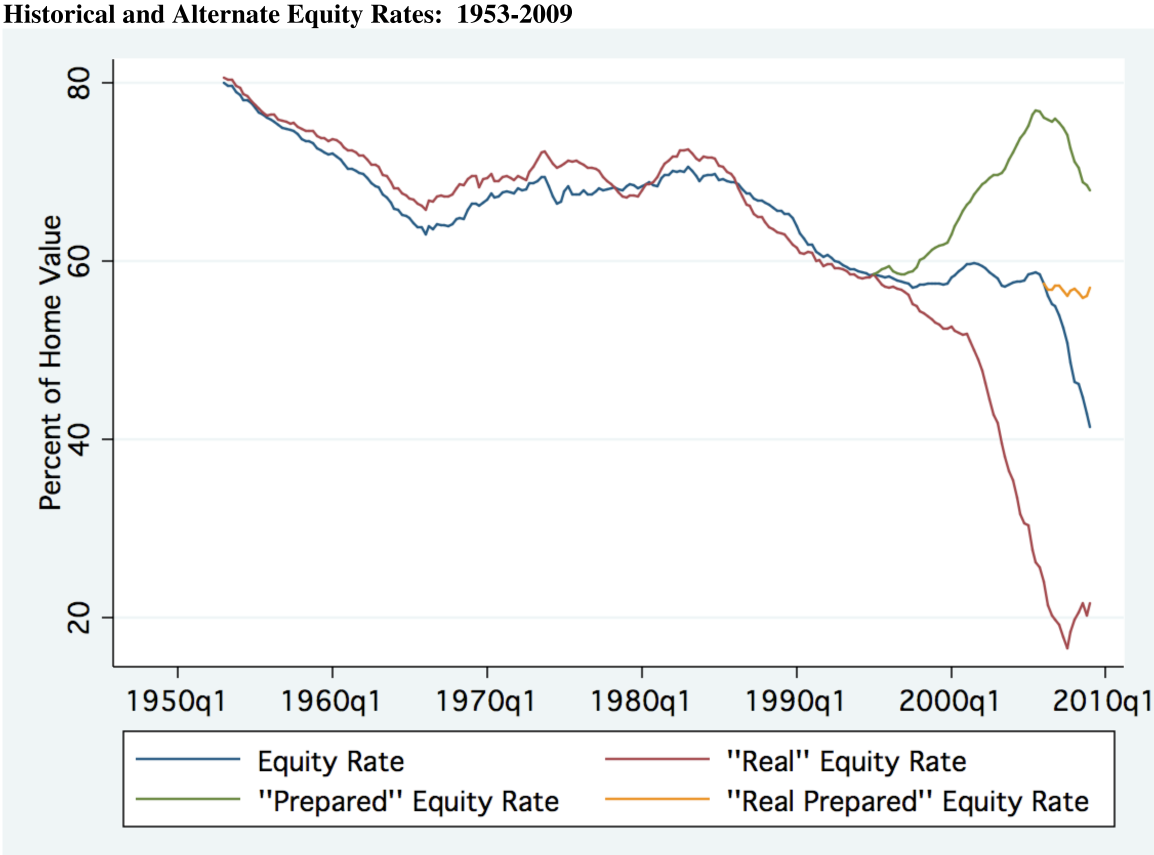


There is hardly a reasonable scenario whereby increasing mortgage payments and continued write-offs prevent a further fall in the equity rate. By the start of 2008, the value of residential real estate had fallen 22 percent from its peak, yet real house prices were still 39 percent above 1995 values. If the real value of residential real estate falls another 20 percent from the first quarter of 2009, net mortgages outstanding would have to fall by nearly $1.2 trillion (11.2 percent) in order to prevent the equity rate from falling below 35 percent. Similarly, a 30 percent fall in value would require outstanding mortgages to fall 22.3 percent, or $2.3 trillion. By comparison, outstanding mortgages have fallen $127 billion from the inflation-adjusted peak in mid-2007.

If economists and policymakers had helped lenders and households to properly recognize the housing bubble, the equity picture would have appeared quite different. For one, if widely recognized, there likely would have been no run-up in house prices and no subsequent collapse. However, if we take the history of home prices as a given, we might as a first approximation assume that owners targeted the rate of equity in their homes based on current valuations through 2005. For example, suppose a homeowner in late 2004 has a mortgage of 42 percent of the value of the house. If the homeowner is unaware that prices were about to collapse, he might be happy with the 58 percent equity rate. On the other hand, a prepared homeowner would find she needs 75 percent equity in the home in order to keep that 58 percent equity once prices fall to their 1995 levels. The unprepared homeowner would have a mortgage 68 percent larger than the prepared.

Assuming that the fall in equity over the last two years is accounted for by failure of planning on the part of homeowners, then given historical house prices, **Figure 8** shows what equity rates might have looked like had they been better prepared.

FIGURE 8
Historical and Alternate Equity Rates: 1953-2009



As Figure 8 shows, if homeowners had recognized the housing bubble and prepared adequately, then equity rates would have climbed steadily through the boom years. While homeowners still would have suffered large equity losses when prices began to fall, they would have found themselves in much better financial shape than had they not saved. Instead of an equity rate of 41 percent and falling toward 20-30 percent, the equity rate would be 68 percent and falling toward 56 percent. Far fewer homeowners would be underwater in their mortgages or defaulting. There would be many fewer foreclosures and the balance sheets of banks would be much improved relative to today.

On the other hand, the money homeowners did take out of equity was largely spent. If by 2005, failure to prepare for the crash in home prices meant mortgage debt of 42 percent of home value, rather than 25 percent, this would imply more than $3.5 trillion in additional mortgage debt over ten years. Thus, consumption was raised an average of $350 billion per year. The inability to continue this rate of additional borrowing against homes implies an initial fall in consumption of 2.5 percent of GDP. In addition, residential investment has fallen to its lowest level since 1991. Since its peak three years ago, real residential investment has declined by more than half – a loss of an another $380 billion per year or 2.7 percent of GDP. These large falls in demand have left businesses with extraordinary amounts of excess capacity. Without any need to put everyone to work, the economy has shed 6.5 million jobs since December 2007. Though there are 18 million more Americans aged 20-64 than there were at the peak of the stock bubble in 2000, payroll employment has declined by 147,000. Not since the Great Depression has the economy failed to produce jobs over a nine-year period. In this respect, it is difficult to construct a less favorable alternative economic history.