STP Advisory Services, LLC

Homeowner Affordability: Fallen off the Tripod

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Introduction

There's something about "Affordability" that makes it very popular: Presidents past and present set goals around it. The popularity of this perennial policy goal is based on the feel-good idea that everyone would live in a home that they own if only they could afford it. Owning your own home is declared near and far to be the American Dream. Recently, however, it seems that Americans' aren't all having the same dream. Despite improving conditions of affordability, home sales continue to decline. As income becomes unstable because of mounting job losses, housing falls further out of balance – no change in price or mortgage interest rates will be enough to rebalance the tripod in the next year.

About the Authors

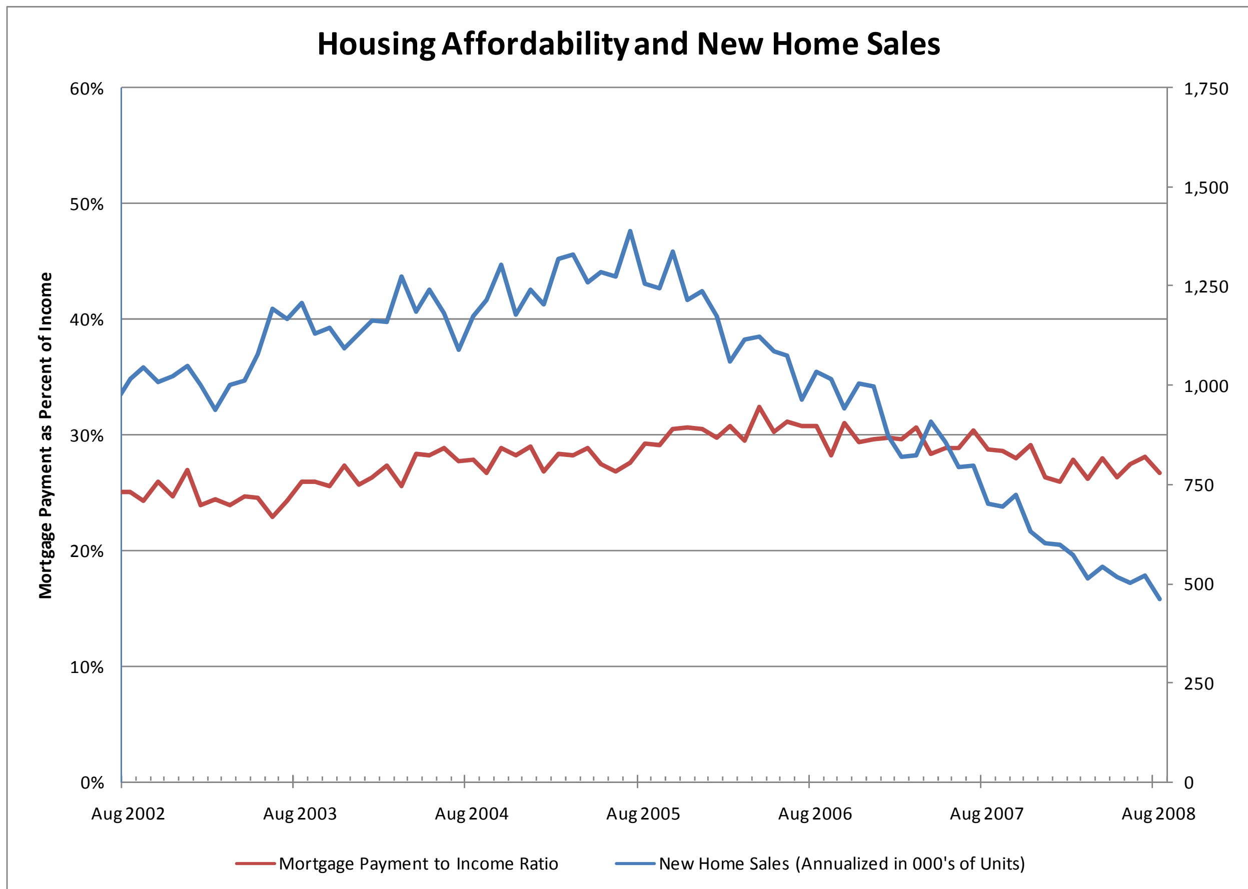
Dr. Trimbath is a former manager of depository trust and clearing corporations in San Francisco and New York. She is co-author of Beyond Junk Bonds: Expanding High Yield Markets (Oxford University Press, 2003), a review of the post-Drexel world of non-investment grade bond markets. Dr. Trimbath is also co-editor of and a contributor to The Savings and Loan Crisis: Lessons from a Regulatory Failure (Kluwer Academic Press, 2004).

Mr. Montoya obtained his MBA from Babson College (Wellesley, MA) and is a former research analyst at the Milken Institute (Santa Monica, CA) where he coauthored *Housing Affordability in Three Dimensions* with Dr. Trimbath. He currently manages international operations for a Fortune 500 Company.

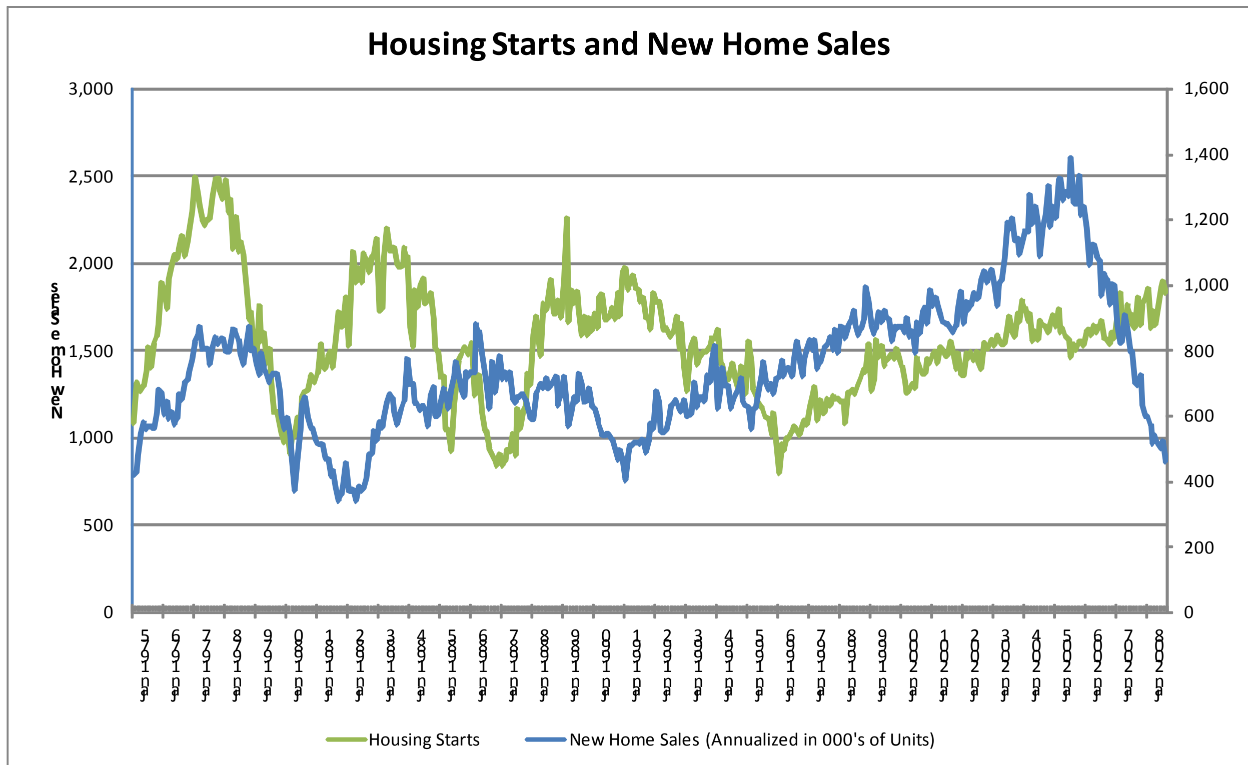
Affordability: then and now

We just passed through a period of time when the "American Dream" was challenged as the growth of home prices outpaced income. From 2001 through 2006, home prices grew at an annual average of 6.85% while income lagged behind, growing at only 2.24%. This pressure on affordability was offset by historically low mortgage interest rates. The cost of a 30-year fixed rate mortgage in 2001 was about 7%, higher than the 2008 rate of about 6.5% and about the same as it was when we last wrote about affordability in 2002. (See *Housing Affordability in Three Dimensions: Price, Income and Interest Rates*, Milken Institute Working Paper. Also available online from the Social Science Research Network http://ssrn.com/abstract=349681). At the end of December 2008, the average 30-year fixed rate mortgage was 5.1% (Freddie Mac's Weekly Primary Mortgage Market Survey).

Interest rates in 2002 were, and continue to be now, the most stable of what we describe as the three legs of the tripod that supports housing affordability: home prices, household income and mortgage interest rates. A regular mortgage cost 11.26% around the time of the 1987 Stock Market Crash. In September 2001, that mortgage was around 7% and by August 2002 the regular mortgage interest rate was around 6%. Unfortunately, as mortgage interest rates are improving today, home sales are not.



One thing we applauded in 2002 was the fact that housing starts were more in synch with home sales. We attributed this to a change in the business model employed by homebuilders, especially large public firms like Toll Brothers. As home sales continued to surge through 2005, housing starts stayed on a fairly constant trajectory. Inexplicably, when homes sales dropped precipitously in late 2006, housing starts remained on that trajectory – it's hard to imagine why.



This is the historical mistake in homebuilding. The inability to finance the construction of this oversupply will damage not only the companies that are doing the building, but also the value of adjacent homes already owned by households. This over-building is the kind of business mistake that resulted in the "boom-bust cycle in real estate" that we believed ended after the credit crunch of the early 1990s brought about a change in builders' "spec" behavior. They went from "building on speculation" to "building to specification." Just as an inadequate response to increasing sales will force home prices up, failing to react to slowing homes sales will force prices down.

In 2002, we explained the combination of factors that drive the market for housing. The behavior of homebuilders combines with urban planning policies and the availability of financing to create the supply of housing. Household formation, personal incomes – largely reliant on the number of jobs in an area – and, again, the availability of financing combine their effects on the demand for housing.

A Puzzle in National Housing Data

The last time that home sales fell as they became more affordable was in the 1990s at a time known as a "credit crunch." At that time, the ratio of home prices to income was actually lower than it has been recently – 3.8 times in September 1990 compared to 4.3 in September 2008. This difference is despite the fact that between 1990 and 1992 mortgage interest rates averaged

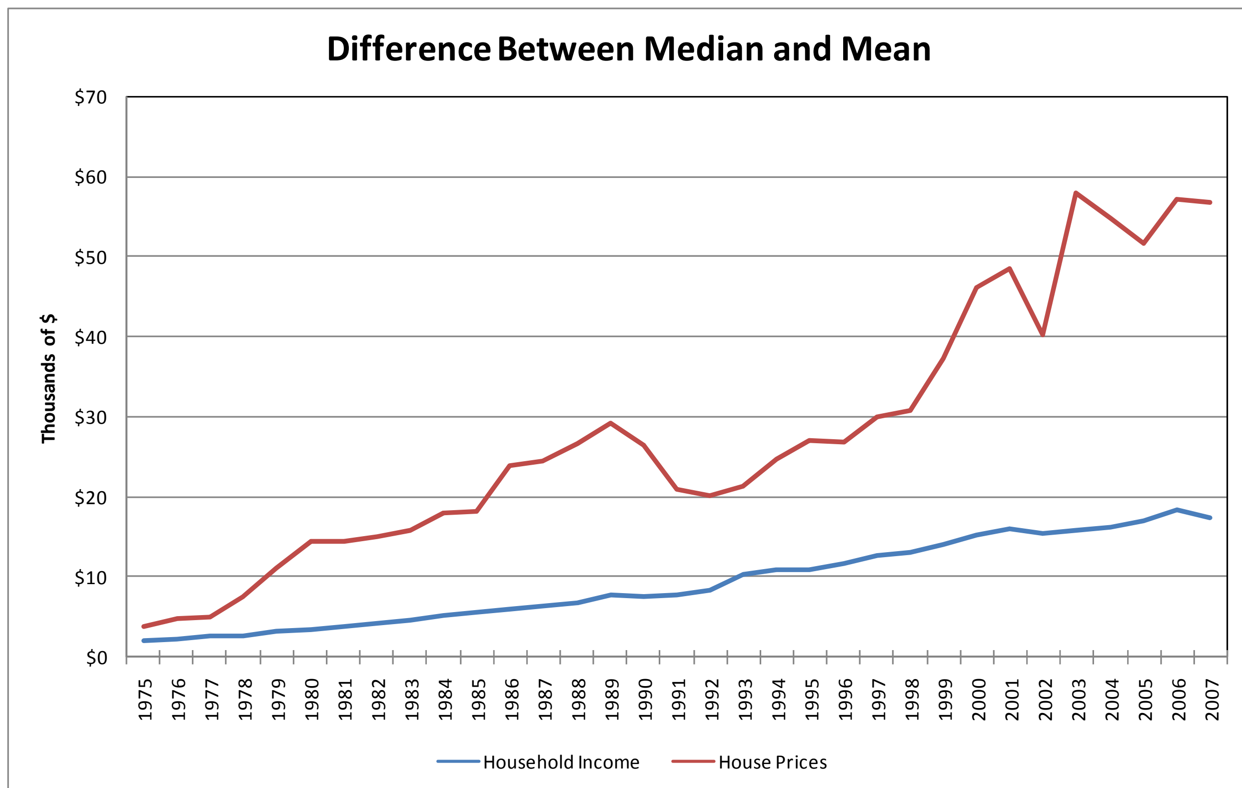
9.26%. In the last 3 years, the average was 6.14% -- rates that ***should*** have improved the measure of affordability, but did not improve sales.

In the 12 months through the end of 2006, median income in the US rose by just a little over ½ of 1 percent (0.6%). At the same time mortgage interest rates declined (the 30-year fixed-rate mortgage by 0.1% points) and median home prices fell (by 3.1%). This means that affordability improved. In fact, the median-income American had almost 115% (114.7) of the income needed to purchase the median-priced home at conventional terms (which is 20% down with a 30-year fixed rate mortgage spending about 25% to 30% of gross income on housing). Looked at another way, the national ratio of home price to income is 3.62, which is 7% below the 1992 bottom. Finally, this brings the mortgage to income ratio down to 23%, a very reasonable number compared to 32% in 2002 and even 40% in 1988. The odd thing is that the rate of homeownership actually fell from 69.0% at the end of 2005 to 68.9% at the end of 2006 (and 67.9% in the third quarter of 2008).

Of course, all the gains in homeownership in the US were made in the 20 years after World War II: owner-occupied housing went from 43% in 1940 to 62% in 1960. Professor Niall Ferguson illustrates this point in the book and popular PBS documentary *The Ascent of Money: A Financial History of the World*. The explosion of homeownership (and mortage debt) after World War II was the result of government policies for guaranteeing the deposits of home loan banks (savings and loans) and the establishment of the Federal National Mortgage Association (Fannie Mae) which set up a market for buying and selling home loans.

In the 40 years that followed World War II ownership has increased comparatively little, from 62% to 68%. The difference between the mean and median priced house has continued to increase – from $40,000 when we wrote in 2002 to nearly $58,000 today. This is an indication that the cost of homes in the higher price range is rising faster than at the lower end. This should bode well for affordability. First homes tend to be at the middle or lower end of the local price range. First time buyers, as well as “empty nesters” and those conscious of living on fixed incomes in retirement, also look for smaller homes, again which will be lower priced. At the same time, however, the difference between mean and median income rose from about $14,000 to only about $17,000 – a substantially slower pace. This slowdown in income could offset any benefits to affordability from changes in home prices.

The top priced housing markets have proven insensitive to interest rates. In fact, they are more sensitive to stock market drops, i.e., those households rely on investment income and not wage income. Some areas, like Orange County (CA), for example, don’t look “normal” by the usual measures because their homeownership affordability is not related to employment, as it is in most areas. They will become more vulnerable as Wall Street values falter.



Median from U.S. Census Bureau; mean from NAR. Prices for new single-family homes based on reported transactions. Difference is mean minus median.
Source: U.S. Census Bureau, author's calculations

Comparing mean (average) and median values is a critical but often overlooked step in statistical and financial analysis. A few very large values at the high end or a few very small values at the low end will skew the calculation of the average but not the median. Having too many observations, either home prices or incomes, at either end of the distribution is referred to as having outliers in the distribution; or as having a distribution with "fat tails." Academic research shows that failing to account for "fat tails" results in interest rate assumptions that are 20% too high (and risk premiums that are as much as 80% too low). (For example, see *The Impact of Fat Tails on Equilibrium Rates of Return and Term Premia*, by Prasad V. Bidarkota and Brice V. Dupoyet, Department of Economics, Florida International University).

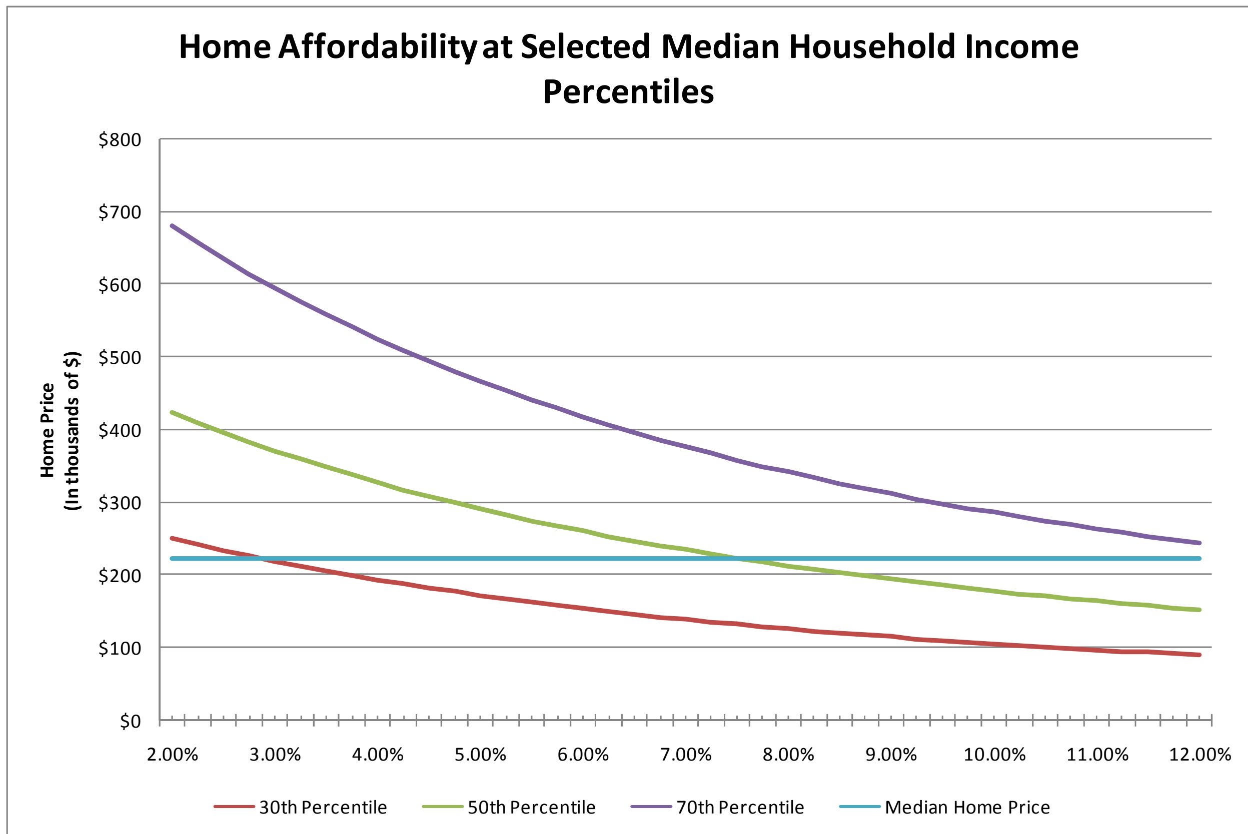
If the mean and the median are exactly the same, then we say the values are distributed "normally" so that any simple statistical analysis will be accurate. The further apart they are the greater is the risk that the statistical results will be inaccurate for analysis, forecasting, etc. For income, it tells us something about the gap between rich and poor. For the prices of new homes maybe it's the difference between the have and the have notes; or simply what Habitat for Humanity can build versus what the suburban McMansions can buy. In our data, we see that the mean is consistently higher than the median, meaning that there are more outlier values at the

high end of the distribution. For income, the increasing gap between rich and poor in the US is well-documented. The gap has been widening and at a fairly steady rate since the 1980s. The gap in home prices behaves more erratically, with very steep increases appearing since about 2000.

The final piece of the housing puzzle is interest rates. As we wrote in 2002:

> "Although the lower interest rate is directly responsible for increasing the affordability of housing, it is also indirectly responsible for reducing it. As lower interest rates attract more people into the home-buying market, the increase in demand also induces buyers to bid higher prices for the homes they choose. If homebuyers bid according to how much they can afford to pay for housing every month, lower interest rates will allow them to increase the purchase price of the home of their dreams without increasing their monthly payments."

Lower interest rates allow people to qualify for higher mortgages, effectively increasing their purchasing and bidding power (along with everyone else in the market). Our concern then was that Americans would focus on "can I afford this home" instead of "what is this home worth". Today, the median income family in the US can afford the median priced home at mortgage interest rates just over 7.5%, a full 0.25 points below what it was in 2002. We think this is a negative factor even though actual interest rates are much lower than this: It takes a lower interest rate for a family with the median income to afford the median priced house. This means that homes are less affordable today than they were 6 years ago. The great irony is that exactly those programs which were aimed at improving affordability may have been responsible for this decline. Professor Ferguson also stated that the boom in homeownership after World War II was made possible by the "reduced monthly cost of a mortgage." It's a lesson we have failed to learn.

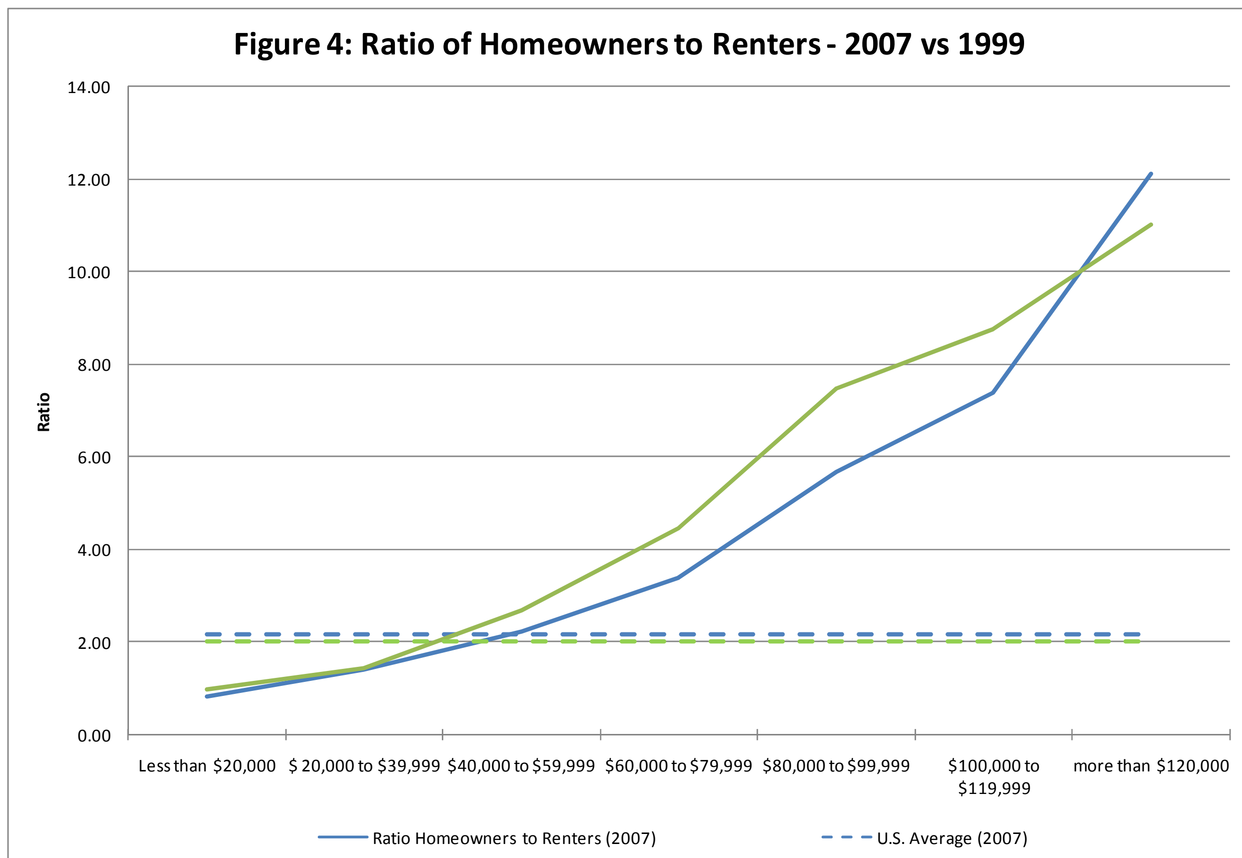


Boom, yes. But for Whom?[1]

From 2001 through 2006, home prices grew at an annual average of 6.85%, more than three times the growth rate for income. This divergence between income and housing costs has turned out to be a disaster, particularly for buyers at the lower end of the spectrum. In contrast, for affluent buyers – those making over $120,000 – the bubble may still have been a boom, even if not quite as large as many had hoped for.

For middle- and working-class people, the pressure on affordability was offset by historically low mortgage interest rates which fell from over 11 percent around the time of the 1987 Stock Market Crash to 6 percent in 2002. Yet if stable interest rates were beneficial to overall affordability, the artificially low interest rates promoted by the Federal Reserve may have created instability. By allowing people to increase their purchasing power to an extraordinary level, low mortgage interest rates fueled a rapid escalation in housing prices.

[1] This material appeared at www.newgeography.com where Susanne Trimbath is a Contributing Editor.



Now that prices are falling quicker than incomes, there should be a surge in new buyers. Since 1975, whenever the ratio of mortgage payments to income falls, home sales usually rise. The correlation coefficient indicates that for every 1% improvement in affordability there is a 2% increase in home sales. But now, something is wrong. In 2007, for every 1% improvement in affordability, home sales *fell* by 2%.

Part of the problem is that prices still are simply too high. Even as recently as August 2008, the median home price was still historically high in comparison to median income – about 4 times. It takes lower rates than in the past for a family with the median income to afford the median priced house. This means that homes are less affordable today than they were 6 years ago.

What we are clearly witnessing is a fundamental slow-down in the gains towards homeownership. One disturbing aspect of this slow-down has been its effects by class. Overall, ownership has gained only among households making $120,000 or more; for all other groups the ratio of owners to renters is lower today than it was in 1999. (About 80% of American households have income less than $100,000 per year. For Hispanics and African Americans, the number is closer to 90%.)

Still, the big winners in the homeownership sweepstakes were some of the minorities targeted by national policy:

> "… expanding homeownership opportunities for minorities is a fundamental aim of the President's housing policy. President Bush is committed to ensuring that opportunities and benefits of homeownership are available for all American families. In June 2002, President Bush announced a new goal to help close the homeownership gap by increasing minority homeownership by 5.5 million by the end of the decade." [Department of Housing and Urban Development, 2002, *Benefits of Increasing Minority Homeownership*.]

Homeownership Rates around the U.S.

	Rate	*Change in Rate*		
Location	*2008Q2*	*1999-2004*	*2004-2008*	*1999 - 2008*
US	68.1	2.2	-0.9	1.3
Northeast	65.3	1.9	0.3	2.2
Midwest	71.7	2.1	-2.1	0.0
South	70.2	1.8	-0.7	1.1
West	63.0	3.3	-1.2	2.1
Urban	53.4	2.7	0.3	3.0
Suburb	75.5	2.1	-0.2	1.9
NonUrban	74.9	0.9	-1.4	-0.5
White	75.2	2.8	-0.8	2.0
Black	48.4	3.0	-1.3	1.7
Other*	60.2	5.5	0.6	6.1
Multi-racial	56.4	NA	-4.0	NA
Hispanic	49.6	2.6	1.5	4.1

Table based on historical data from US Housing Market Conditions, U.S. Department of Housing and Urban Development, Office of Policy Development and Research,
*"Other" includes "Asian", a group which reports household incomes about 20% to 30% higher than the Racial/Ethnic category "All" regardless of income level category. Nonurban includes all areas outside metropolitan statistical areas.
Note from Census.gov: "For Census 2000, the Census Bureau classifies as 'urban' all territory, population, and housing units located within an urbanized area (UA) or an urban cluster (UC). It delineates UA and UC boundaries to encompass densely settled territory, which consists of: core census block groups or blocks that have a population density of at least 1,000 people per square mile and surrounding census blocks that have an overall density of at least 500 people per square mile."

Of the racial and ethnic minorities described in the census, Hispanics had a net 2.6 percentage point gain in homeownership during the period since the 2002 announcement. Although African Americans initially gained more than Whites in homeownership, they gave back more of those gains in the housing collapse to end up with a net improvement closer to the national average.

In the early years of this decade Hispanics enjoyed a net 2.6 percentage point gain in home ownership. In the next four years, while most Americans were seeing a decrease in home ownership, the Hispanic population continued to see gains. Although African Americans initially gained more than Whites in home ownership, they gave back more of those gains in the housing collapse.

The great irony is that exactly those programs aimed at improving affordability may have been responsible for this recent decline. We first wrote about Housing Affordability in 2002. One of our concerns then proved to be true: buyers would focus on “can I afford this home” instead of “what is this home worth.” Although there were some gains in overall home ownership rates in the US during the early part of the boom, about 40 percent of that was given back during the last four years as home prices surged out of reach.

The areas with the biggest losses in homeownership rates in the 2004-2008 period were outside the cities, particularly in the Midwestern United States which encompasses Missouri, Iowa, Kansas, Nebraska, Minnesota and the Dakotas (west north central) and Wisconsin, Illinois, Indiana, Michigan and Ohio (east north central). Of the geographic segments, non-urban Americans gained the least in homeownership in the 1999-2004 housing boom; and only the Midwest geographic segment gave back more. This is unfortunate in several respects. According to Joel Kotkin, author of The New Geography (Random House, 2001), job creation is strongest outside the cities:

> “The problem for many cities is that they lack the jobs for people to move close to. … By 2000, only 22% of people worked within three miles of a city center in the nation's 100 largest metro areas. … The central core … accounts for barely 3% of regional employment.” (http://www.newgeography.com/content/0063-suburbias-not-dead-yet)

The Obama-Biden Agenda Plan on “Rural” doesn’t mention housing. There is a plan that “promotes affordable broadband coverage across rural America.” Americans living outside urban areas may be able to use the internet to find homes for rent, but there is nothing in this plan to help with non-urban homeownership. Without homes, it’s unlikely that the “young people” they hope to attract to rural areas will stay.

What about the future? The Obama-Biden Agenda Plan on Urban Policy mentions housing nine times, including a headline on “Housing” with plans for lower interest payments and an increase in the supply of affordable housing “throughout Metropolitan Regions.” There are also plans **for**

making the mortgage interest tax deduction available to all homeowners (it currently requires itemization). The latter should help middle-class households; the former will help lower-income households. This is not a continuation of the Bush Administration policy which relied on stimulating the demand for housing by providing mechanisms to bring households into the market. The data shows that low income households barely stayed even on ownership (versus renting) under this policy, middle-class households suffered tremendous losses and only the wealthy, those making more than $120,000 in income, had a gain in home ownership.

The last President ignored our advice in 2002: "A more balanced effort to stimulate supply would equilibrate the potential adverse affect on prices" from over stimulating demand. Let's hope this new President gets the balance right.

New Forces at Work in Housing

There appear to be new forces at work in housing. Affordability can be measured as the ratio of mortgage payments to income. The higher the ratio, the more affordable homes are. Since 1975, whenever the ratio of mortgage payments to income fell, home sales rose. The correlation coefficient indicates that for every 1% improvement in affordability there is a 2% increase in home sales. But now, something is wrong.

In 2007, for every 1% improvement in affordability, home sales ***fell*** by 2%. As of August 2008, the median home price was still historically high in comparison to median income – about 4 times. The difference for affordability was that the mortgage payment to income ratio hovered between 25% and 30% for more than 10 years. The median income household can afford the median priced home in the US at interest rates up to about 7.25%, lower than it was in 2002 but still significantly higher than the mortgage rates available today in the U.S. Still, home sales are falling.

As the words "subprime crisis" bled in headlines around the world, the regular mortgage interest rate barely budged until after the 2008 bailout of financial institutions and automobile manufacturers. If credit was tight in the 2007-2008 credit crisis, and interest is the cost of credit, we have to ask ourselves why interest rates are not rising to ration credit.

The fundamentals of supply and demand, with price as the equilibrating force, are no longer working in the housing market. While stable interest rates are beneficial to overall affordability, artificially low interest rates may actually have created instability. By allowing people to increase their purchasing power to an extraordinary level, low mortgage interest rates in turn fueled the price growth that turned out to be so detrimental to home sales. If you prefer to discuss bubbles, then low mortgage interest rates were the helium that inflated this one. Beyond concerns that homes are over-priced lies another real worry for potential homebuyers: price declines are

more likely than price increases. Many otherwise qualified buyers will prefer to hold out. After all, cash is better than assets in a deflationary period. We believe this is an indication that not everyone who can afford a home is interested in buying one and that some households think that homes are over-priced, regardless of affordability.

Income Key Focus for 2009

The relationship between education and income is well-known. The 2007 median income in the U.S. was $33,452, about what is earned by the worker with some college or an associate's degree. Workers with only a high school diploma make about 20% less than that. A bachelor's degree translates into a 40% increase in income; a worker with a graduate degree earns 83% more than the median. And this curve gets steeper every year: from 2006 to 2007 the slope increased 3%. Today's Knowledge Workers are in a better position to continue to afford homeownership. They are moving to Nevada and Hawaii. They are leaving New Mexico, Delaware and Louisiana. Among the 10 states losing knowledge workers as a percent of the workforce, California, Arizona and New Hampshire probably will feel the strongest impact on housing because they are among the states that enjoyed the highest run-up in prices. Of the three, only New Hampshire improved the rate of homeownership more than the overall US gain (see table). There has been little change recently in the overall percentage of the US workforce with advanced degrees: 10% in 2005, 9.9% in 2006 and 10.1% in 2007. Among the many other states increasing the share of their workforce with advanced degrees, Montana, North Carolina, Maine, Vermont and Maryland led the way with increases of more than 0.5%.[2] At first blush, it may appear that increasing the share of knowledge workers in the state's economy would drive down homeownership. The data show no clear pattern (statistical significance), however, and may take several more years to prove the point: increased education leads to higher incomes and increased levels of homeownership.

[2] See "Knowledge Worker Migration: Going Where the Brains Are" for a fuller treatment of this subject. Available online only at www.newgeography.com/users/susanne-trimbath.

Location	Change in Graduate-Degreed Workforce 2005-2007	Change in Homeownership 2004-2008
US	***0.1***	***-0.9***
New Mexico	-0.7	-0.1
Delaware	-0.7	-0.5
Louisiana	-0.5	3.0
New Hampshire	-0.2	1.5
California	-0.1	-1.2
Arizona	-0.1	0.0
Maryland	0.5	-2.1
Montana	0.6	-2.4
North Carolina	0.6	0.9
Maine	0.6	0.1
Vermont	0.6	1.1
Hawaii	0.8	-2.7
Nevada	0.9	-3.2

Despite their potential impact on overall affordability (probably through rising home prices), educated homeowners can actually be very good for a neighborhood. Workers with advanced college degrees are less likely to move than Americans with other education levels. When they do move, however, they are more likely to move further away – they have the highest percentage of movers going to different regions or abroad.

Education	**Movers**	**Percent of movers that moved to:**				
		Same county	*Different county, same state*	*Different state, same division*	*Different region*	*Abroad*
Not a high school graduate	12.5%	70.3%	16.6%	3.0%	4.0%	5.1%
High school graduate	10.5%	68.3%	18.8%	3.4%	5.5%	1.7%
Some college or AA degree	11.2%	62.8%	21.1%	3.7%	7.4%	2.3%
Bachelor's degree	11.1%	56.4%	22.4%	5.7%	8.3%	4.2%
Prof. or graduate degree	10.3%	50.6%	20.1%	4.9%	12.4%	6.9%

Census data, General Mobility 2006 to 2007

For now, however, the focus has to be on employment more than on income. In the Appendix, we include a complete listing of changes in the labor force and in the number of unemployed for each state. Some of the states with the highest increase in the number of unemployed persons, California, Florida, New York – are those you would expect and the same states that are having

problems in housing. It is interesting to note, however, that Texas increased their unemployment rolls by nearly the same number of people that New York did – the difference is that Texas did this while increasing the overall size of the labor force by almost 3% – New York added only 1%. The labor force in Michigan actually fell by about 2% – yet unemployment rose to one of the highest rates in the country (10.6%). This could indicate that people are leaving the state for want of employment. If this is true, then Michigan is experiencing now what Southern California did in the early 1990s – as labor leaves, the flood of homes on the market for sale has a detrimental impact on prices. Beyond this, a more in depth analysis would necessarily have to go to a more granular level. The specific circumstances of individual states are beyond the scope of the present analysis.[3]

Where Do We Go From Here?

Koreans spend more on private, after-school lessons than on housing; their spending on extra education is increasing at a rate that exceeds public funding for education and private spending on housing, medicine, or any other major sector of the economy (Korea Herald, 6 April, 2004). In the US we seek mansions at the cost of educating our children. The next generation is less likely to live better off than their parents than the last generation was. The links between education, income and homeownership are undeniable.

Supply, demand and pricing, the cost of financing, household income and home prices – all critical factors in the equation of homeownership. In regards to income, we believe that mounting job losses, in addition to a declining stock market, will negatively impact family and household income. In regards to interest rates, as we alluded earlier, a credit crunch will not only make funds more scarce – which must eventually drive up the price of credit – but also the risk premium demanded by lenders will increase which again drives up the price of credit even further.

The above two factors alone will negatively impact affordability in the future which will in turn continue to negatively impact home prices. If mortgage lending rates are held artificially low (for example, as the Federal Reserve buys up mortgage-backed securities), there will be an offsetting upward pressure on prices, which is still bad news for affordability. Additionally, we see continued imbalances in the supply-demand equation as foreclosures add inventory to the market. The solution thus would be a two prong approach that puts the brakes on foreclosures and stimulates demand. The Homeowner Affordability and Stability Plan has some elements of this. But then, so did the Housing and Economic Recovery Act passed in 2008 – a year which saw 3 million homes in foreclosure and a significant drop in sales.

[3] STP Advisory Services, LLC offers in depth analyses of housing, financing, and income for an extensive list of geographic locations. Interested parties should contact Dr. Trimbath.

In the coming 12 to 18 months, we believe that interest rates will rise and incomes will, at best, remain flat in the face of the global recession. More importantly, as job losses mount, “affordability” will be less important and “maintainability” – the ability of homeowners to keep their homes in the face of unemployment – will come to the forefront. In the meantime, housing affordability will hang precariously out of balance on the tripod of income, prices and interest rates.

APPENDIX: Changes in workforce and employment: December 2007 to December 2008

State	**% change in number**		**As of Dec. 2008**
	workforce	***unemployed***	***Unemployment rate***
West Virginia	-1.3%	4.6%	4.9
North Dakota	1.0%	8.5%	3.5
Wyoming	1.3%	12.4%	3.4
Arkansas	-0.1%	12.7%	6.2
Iowa	0.3%	20.7%	4.6
Oklahoma	2.1%	21.7%	4.9
Alaska	2.4%	22.4%	7.5
Mississippi	-1.1%	25.6%	8.0
Kansas	1.5%	27.4%	5.2
Wisconsin	0.1%	27.8%	6.2
New Hampshire	-0.1%	33.6%	4.6
Ohio	-0.3%	33.8%	7.8
South Dakota	0.6%	35.4%	3.9
Missouri	-0.8%	37.6%	7.3
Michigan	-1.9%	39.7%	10.6
Illinois	-1.5%	40.3%	7.6
Maine	0.6%	44.5%	7.0
Texas	2.6%	45.9%	6.0
Nebraska	1.2%	46.0%	4.0
New York City	1.4%	47.2%	7.4
Minnesota	0.6%	47.6%	6.9
Connecticut	0.7%	48.0%	7.1
Kentucky	0.3%	48.4%	7.8
Utah	-0.1%	51.8%	4.3
New York	1.0%	51.9%	7.0
Louisiana	2.2%	52.6%	5.9
Colorado	0.4%	53.8%	6.1
South Carolina	1.6%	55.3%	9.5
Pennsylvania	2.4%	55.7%	6.7
New Mexico	2.2%	56.2%	4.9
Tennessee	-0.4%	59.4%	7.9
Washington	2.6%	60.0%	7.1
California	1.8%	60.4%	9.3
Massachusetts	0.4%	61.1%	6.9

State	% change in number		As of Dec. 2008
	workforce	*unemployed*	*Unemployment rate*
Maryland	0.1%	63.4%	5.8
Vermont	1.1%	66.9%	6.4
Montana	0.5%	68.9%	5.4
Virginia	1.8%	69.2%	5.4
Oregon	2.8%	70.4%	9.0
Arizona	3.4%	72.0%	6.9
New Jersey	1.9%	72.8%	7.1
Alabama	-1.8%	75.3%	6.7
Delaware	0.0%	75.3%	6.2
Georgia	0.5%	78.3%	8.1
Florida	0.8%	80.9%	8.1
Hawaii	2.0%	82.9%	5.5
Nevada	4.9%	84.6%	9.1
Indiana	0.7%	86.0%	8.2
North Carolina	0.7%	87.4%	8.7
Rhode Island	-1.8%	88.1%	10.0
Idaho	0.4%	142.6%	6.4
Average	0.8%	53.2%	6.7
Median	0.7%	52.6%	6.9

Authors' calculations. Data from Bureau of Labor Statistics. December 2008 figures are preliminary.