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Fred Foldvary  
*San Jose State University, [ffoldvary@gmail.com](mailto:ffoldvary@gmail.com)*

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## **THE REAL ESTATE CYCLE AND THE DEPRESSION OF 2008**

**by Dr. Fred Foldvary**

*This article is adapted from a lecture to the Real Estate Network, Leavey School of Business, Santa Clara University, California, on May 4, 2007.*

Real estate has been in the news just about every day as sales have slowed down and housing prices have fallen in many places. Many recent buyers now face rising mortgage costs that they can't afford. The real estate chickens are now coming home, but why did the chicken cross the road in the first place?

There are all kinds of opinions about what's going on and where this is all heading. But forecasts are generally useless without a theory or explanation that fits all the pieces of the puzzle together. Unfortunately in the field of economics, there is no consensus theory of the business cycle. Most economists today think that booms and busts are caused by unexpected external shocks, such as an increase in the price of oil, or the eruption of new technologies. Those explanations imply irregular economic fluctuations. But in historical fact there have been quite regular boom and bust cycles.

The problem is that there is no one single business cycle. There are major cycles, combined with minor ups and downs, plus small random fluctuations, so if you look at GDP year by year, it looks irregular, but if you see the cat in the drawing, you can see a clear cyclical pattern. The economy is like those pictures where there is a jumble of lines, but there is a picture in the drawing, and if you look hard enough, or know how to look, you can see the design, such as a cat, and once you see the cat, it then seems obvious where the cat is.

Real estate economists recognize that there has been for a long time a boom-bust real estate cycle. During the 1930s, real estate economist Homer Hoyt discovered an 18-year cycle of real estate in Chicago, which coincides with the business cycle for the economy as a whole. Every depression is preceded by a boom, and real estate dominates the boom. Real-estate values and construction have peaked one to two years before a depression, indicating that real estate boom is a cause of the downturn.

There have been recessions that were not caused by real estate. For example, the recession of 2001, and previously in 1970. These were relatively minor downturns. The 2001 recession which followed the huge technology boom here would have been a very minor downturn if not for the 9/11 attack. So here we have the cat, and the chart shown lets the cat out of the bag. But data do not create theory. By itself, this evidence does not provide an explanation. You should not believe this chart until you understand the explanation.

### **The key turning point**

If you picture a cycle with up and down waves, the puzzle in the cycle is the downturn. Why don't economies just keep growing steadily? Why do they peak out and turn down? The key to answering the puzzle is not at the peak but in the middle of the boom.

At the middle of the expansion is the point of inflection. The slope of the cycle curve is the first derivative, the change in output during a small time interval. The second derivative, for those who know calculus, is the change in the slope, the change in the rate of growth. At the peak of the boom, the point of inflection, the second derivative, which shows how fast the economy is growing or shrinking, changes signs. It changes from positive to negative. When the second derivative is positive, that means that growth is speeding up, the economy is growing faster and faster.

When the second derivative flips to negative, that means that growth is now slowing down, the economy is still growing, but at a slower pace. If that second derivative stays negative, growth slows to zero, the cycle peaks out, and then growth turns negative, the economy slides into a recession. At the bottom of the cycle, the economy is depressed, so it is in depression.

### **Capital Goods**

OK, so how does this happen? Why does the change in the rate of growth turn from positive to negative? The story begins with capital goods. Capital goods are goods that have been produced but not yet consumed. We can think of capital goods as the tools used in production. Capital goods include machines, buildings, and inventory.

Capital goods have a time structure. The ones at the top are the higher-order goods, and those at the bottom are lower order. The higher order goods take a long time until investors get their money back. Those at the lowest order, such as inventory, turn over quickly. The higher-order the capital good, the more sensitive it is to interest rates. With inventory, you don't care what the interest rate is, because your capital is tied up for a short time. But with capital goods of highest order, such as real estate construction, your money is tied up for a long time, so the rate of interest

becomes very important.

High interest rates flatten the structure of capital goods. Think of trees that take 50 years to mature. If the tree grows 3 percent a year in value, but the market rate of interest is 4 percent, you won't plant the tree. If the market rate is less than 3 percent, the trees get planted.

If the interest rate is set by the free market, there is no problem. More savings lead to lower interest rates, and the reduced consumption is offset by greater investment, especially in the higher order capital goods. But in our economic system, our central bank, the Federal Reserve system, manipulates interest rates.

When the news media announce that the Fed is reducing interest rates, the relevant rate is the federal funds rate, which is the interest rate banks pay when they borrow funds from other banks. The Fed does not set that rate, it targets that rate, by manipulating the money supply. The Fed lowers the federal funds rate by buying treasury bonds, and paying for them by raising the reserves or money held by the banks. Our money is fiat money, not backed by any commodity, and the Fed creates money out of nothing by decree. The Fed goes "poof!" and the bank now has more money in its reserves, money that can be lent out.

The Fed-created money acts as though there were more savings. Banks lower their interest rates to loan out that extra money. At that lower interest rate, there is more investment in higher-order capital goods, such as real estate construction and development. It's important to recognize that this new investment is artificially boosted by the manipulation of interest rates by the Fed, as these investments would not have been made with the higher interest rates that a pure market would have set. The problem is that the public's planned savings did not change. So the new investment competes with consumption in the market, and so prices rise.

The new money creates price inflation, but prices don't all rise at the same rate. Prices rise faster where the new money is being loaned out, such as for purchasing and constructing real estate. So we may not see much increase at first in the consumer price index, and it seems like "inflation is under control" but in actuality, there is high asset price inflation, rising real estate prices and a rising stock market.

### **Land values**

But capital goods are only half the story. Land is the other half. As the economy recovers from a recession, at first there is a decrease in vacancies, and then when vacancies are low, rents rise, and the price of land rises, and then speculators buy real estate as they expect rentals and prices to keep rising. When real estate prices rise, it is really the price of

land rising, not the value of the buildings. Land values rise because there is a fixed supply overall and a rising demand. The supply of land to the market can be even less. In California, for example, the supply of land for development has been artificially reduced with stringent restrictions on zoning and land use.

The real property tax that falls on land reduces the price, but the property tax on buildings adds to the cost of using the structures. Even when property taxes are limited, governments often find ways to get around legal limitations. For example, in spite of or because of the limitations set by California's Proposition 13, local governments impose multiple taxes on development and real estate ownership:

- 1) Developers' exactions or impact fees
- 2) Tax increment financing
- 3) Property-related so-called "fees"
- 4) Parcel taxes on the square footage of improvements
- 5) Special assessments
- 6) Real estate transfer taxes

Much of the impact of these taxes falls on buildings, raising the cost of real estate. But the biggest reason why land values rise is the humongous implicit subsidy granted to real estate owners. Public works and civic services increase the value of land and little of this is paid from property taxes specifically on land so these public goods get capitalized as higher land value and more rent.

Tax advantages such as reduced or eliminated capital gains taxes and tax deductions for mortgages and property taxes, make real estate that much more attractive, but none of this really benefits a new buyer, because he pays for all this in the higher price for land unless land values keep rising. So the whole system depends on ever increasing land prices. As an economy expands, and land prices go up, leveraged ownership can reap huge profits. The speculative demand for real estate makes prices rise even faster. We have seen real estate prices double in some places from 2000 to 2007. Obviously this is not sustainable.

The Fed lowered the federal funds rate down to one percent after 2001, which also lowered other interest rates. Real estate purchasing, construction, and land values have all escalated, exactly as theory predicts. Economist Robert Shiller in his book *Irrational Exuberance* says that we are experiencing the greatest real estate boom in history. What has made this boom even bigger than previous booms is the huge explosion in the secondary loan market.

**Investment gets choked off**

Bankers sell their mortgages to government-sponsored enterprises, popularly called Fannie Mae and Freddie Mac, which in turn sell guaranteed bonds to the public and to insurance companies. Fannie and Freddie themselves have implicit guarantees from the federal government. With these guarantees and government-sponsored mortgage resale markets, banks go hog-wild, lending out interest-only mortgages and adjustable-rate loans to buyers with not so good credit. That's the sub-prime market we've been hearing about. Fannie and Freddie have not reduced the risks of default, but have spread the risks throughout the economy.

There is a tendency to loosen lending standards during a boom, since if a loan goes bad, higher prices will bail out the loan, but when property prices stop rising, and defaults go up as they are now doing, banks tighten lending rules, but this only reduces the demand for real estate even more which makes it more difficult to sell, and puts a downward pressure on prices.

Eventually, a great increase in the money supply creates price inflation in consumer goods also, and the monetary authority then reduces the rate of growth of the money supply, and interest rates rise. High interest rates plus high prices for real estate then choke off new investment. Remember the point of inflection, where the second derivative turns from positive to negative. Business expands when it expects higher profits. Business reduces investment when they expect lower profits. They expect lower profits because costs have gone up.

The most important costs for investment in higher order capital goods are for interest payments and real estate. During the peak of expansion, both of these costs rise, and so the rate of investment growth falls. The change in the rate of growth turns negative. Higher costs eventually choke off new investment. That lowers demand for other goods, and then the economy plunges into a recession. This is exactly what happened in Japan after its boom of the 1980s. Real estate prices then deflated from their lofty heights, as the Japanese economy stagnated for a long time.

Mortgages are paid from wages and profits, so eventually, real estate prices stop rising. The real estate market plateaus. Real estate sales volume drops, as it is now doing, but most owners refuse to sell at prices much lower than they were. The large number of properties on the market then dampen new construction, which then reduces the demand for durables such as furniture, appliances, and office equipment. With rising unemployment and interest, some owners can't afford to pay their mortgages, and they go into default. More properties get dumped on the market. When the economy goes into recession, people lose their jobs, businesses fail, and then real estate prices collapse as owners are forced to sell and banks unload properties. Banks fail, enterprises go bust,

unemployment soars.

The Fed now faces a financial dilemma. The past growth of the money supply will increase price inflation. But if they slow down the growth of money, interest rates rise, and slow down the economy. There is nothing the Fed can do to prevent the next recession because the fruits of the previous expansion of money are now ripe as high real estate prices and rising defaults. We are heading down the river to a financial waterfall, and expanding the money supply won't do any good now, since at the peak of the boom, inflation is expected and no longer boost output but just increases prices.

### **The timing**

So, what about the timing?

Historically, the recession begins soon after real estate peaks out, and it looks like the peak occurred last year, in 2006. The last real-estate depression was in 1990. Adding 18 years to that puts the next depression in 2008. This is not a new forecast. Back in 1997 I published an article on the business cycle in the American Journal of Economics and Sociology in which I predicted a recession in 2008. The real estate cycle since then has been right on track towards the depression of 2008.

Could the recession start this year, in 2007? I think a recession is unlikely before 2008 because commercial real estate is still strong, and business investment is still strong. But the rate of growth is already decreasing. The exact year of the recession cannot be forecast precisely because the Fed can alter the timing, and we don't know what the Fed chiefs will do. If the Fed lowers interest rates substantially, the recession will still come, but later. Past evidence can give use clues to the timing, and about two years after the peak seems to be the average time interval from the real estate peaks to the following recession and depression. That's why I continue to think that 2008 is the most likely year for the coming depression. And it will probably be a severe recession and depression, given the huge increase in real estate prices, and the huge previous expansion of the money supply which has created large economic distortions.

There are signals we can watch that will indicate that the recession is about to start. Watch business profits, business investment, and non-residential construction. The focus today is mostly on residential real estate, but what turns that second derivative negative is reduced investment by business, and that follows lowered profit expectations. Since the economy is already slowing down, as the rate of growth diminishes, the signals indicate that we are approaching the peak.

There are also several real estate indexes we can watch. A new real estate

signal is the S&P Case-Shiller Metro Area Home Price Indices, associated with a new futures market in real estate prices. Another signal is the iShares Dow Jones US Real Estate index, symbol IYR, which seems to have topped out on February 2007. The inverse of that index is the ProFunds Short Real Estate Inv fund, symbol SRPIX, on which you can make money as real estate falls. The iShares Dow Jones US Real Estate fund, ETF, also looks like it topped out in February. What is different today from past real estate cycles is that it is possible to hedge from or speculate on a real estate decline, but this won't prevent the downturn.

### The financial waterfall

As the economy heads towards the coming waterfall, we can't stop it; some will profit from it; most folks will suffer losses, some great losses, from the coming real estate collapse and economic depression, but at least, if we understand the real estate cycle, we will have the satisfaction of knowing why we are suffering from the crash, and just maybe, next time around, we will be better prepared to handle it.

One thing I can predict with absolute confidence is that government chiefs, and even most economists will not learn the right lessons from the collapse, and history will repeat itself, as it always has.

### The real estate cycle in the USA <http://www.foldvary.net/works/cycle.html>

Peaks in land value		Peaks in construction		Depressions	
interval (years)		interval (years)		interval (years)	
1818	--	--	--	1819	--
1836	18	1836	--	1837	18
1854	18	1856	20	1857	20
1872	18	1871	15	1873	16
1890	18	1892	21	1893	20
1907	17	1909	17	1918	25
1925	18	1925	16	1929	11
1973	48	1972	47	1973	44
1979	6	1978	6	1980	7
1989	10	1986	8	1990	10
2006	17	2006	20	2008?	18



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*Dr. Fred Foldvary's email is [ffoldvary@scu.edu](mailto:ffoldvary@scu.edu)  
The speech is at [\\_http://www.foldvary.net/works/recd8.html](http://www.foldvary.net/works/recd8.html)*

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