Asset booms and busts are very old phenomena – the Dutch “tulip mania” of the 17th century, in which prices for single bulbs reached six times the annual income of the average Dutchman before crashing to nil, is only the most famous of countless bubbles over the centuries. And, as homeowners and stock market investors are uncomfortably aware, the modern world is hardly immune.

The International Monetary Fund estimates that stock-price bubbles occur about once every 13 years, while boom-and-bust cycles in housing occur about every two decades. And the consequences are typically more sinister than a run-of-the-mill economic shock like a big oil-price increase or a burp in consumer confidence: when the bust inevitably comes, the strain it puts on the financial system makes a severe recession much more likely. As is now only too clear, the current housing crash in the United States has triggered a cascade of financial market crises, be-
ginning with subprime-mortgage losses that rocked the foundations of the world’s biggest banks and ending nobody yet knows where.

In light of bubbles’ grim predictability and potential for vast economic damage, it is something of a mystery that the makers of monetary policy are so hesitant to confront the challenges that they pose head-on. After all, the law requires the Federal Reserve – the central bank in the United States – to pursue maximum employment and stable prices. And bubbles clearly compromise the Fed’s ability to deliver the Goldilocks promise of low inflation with stable growth.

THE BEAST, EXAMINED

But agreeing on the desirability of containing asset-price bubbles doesn’t imply that policymakers can easily agree on what to do about them. Before I outline the options, it makes sense to better understand the nature of the beast.

Bubbles make people who are willing to gamble on asset prices (as well as a host of folks just hitching a ride) first richer, and then poorer. But along the way bubbles do much more, distorting economic activity by distorting consumption, investment and the path of fiscal policy – not to mention the balance sheets of commercial banks.

Consumption

Booms in stock or property prices increase the value of what people own. And the natural response is to spend more, on everything from cars to cruises to flat-screen TVs. A useful rule of thumb is that a $1 increase in the wealth of American households leads to between 2 and 5 cents of additional consumption annually.

But not all wealth is created equal. Changes in stock market wealth and housing wealth elicit different responses for two reasons. First, stock markets are substantially more volatile than real estate markets, so a change in equity prices is rightly seen as less likely to be permanent than a similar-sized change in house prices. A rough guess is that Americans treat nearly all of an increase in housing wealth – but only one-half of the change in financial wealth – as permanent, implying that increases in housing values yield twice the consumption bang for a buck.

Second, the ownership of stocks tends to
be concentrated among the wealthy, and the rich are understandably less inclined to adjust their consumption in response to fluctuations in wealth. Housing ownership, by contrast, is distributed more broadly. All told, then, it is not surprising that researchers have found that a 10 percent increase in housing wealth raises consumption by between 1.1 and 1.7 percent, while the same change in stock-market wealth only increases consumption by something like 0.2 percent.

**Investment**

Stock market bubbles distort companies’ decisions about how much to invest, and on what. Remember, for example, the dot-com bubble of the late 1990s, in which hundreds of start-ups with faintly plausible stories to tell were able to issue stock, and blow it all chasing the mirage of a customer behind every computer (“Now, if just 1 percent of all rhine-

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When markets are working efficiently, the price of a firm’s stock represents the sum of what is known about its prospects for profit. But the price system only works in securities markets when prices reflect expected future profits, rather than the price somebody is likely to pay for shares in the expectation that somebody else will pay even more. Short-term booms (and busts), by their very nature, distort the impact of information on asset prices, drowning unproductive ventures with capital even as they starve potentially productive ones. During the tech bubble in the late 1990s, high-tech firms were able to raise funds easily, while makers of nuts-and-bolts products lacking the hype were starved.

From 1993 to 2000, nonresidential fixed investment contributed an average of more than one percentage point per year to growth. In 2001, the rapid plunge in business investment in the wake of the stock market bust brought growth down by one-half of one percentage point. The swing was huge – much larger than in the output never produced during the 1990-91 recession.

Housing bubbles create an analogous cycle. Rising house prices make it extremely profit-
able to build. And, believing that prices will continue to rise, individuals remain anxious to buy in spite of the hefty sticker prices. Between the beginning of 2006 and the end of 2007, annual housing starts in the United States fell by nearly half (from 2.3 million to 1.2 million), reducing economic growth by between one-half and three-quarters of a percentage point. And in a $14.5 trillion economy, that’s not small change.

**Fiscal Policy**

The politics of government fiscal affairs vary from country to country. But there is one constant: it is always easier to cut taxes than to raise them. And when combined with the dynamics of a bubble, this reality can be very damaging to the structure of government finance. Since asset-price booms increase both income and consumption, they tend to raise tax revenues. Flush with new cash, politicians increase spending and cut taxes. But when the bubbles burst, revenues fall, creating fiscal deficits that are as unpopular to fix as they were popular to create.

Consider, for example, the poisonous political economy of the tech bubble. During 2000, capital gains reported by individual taxpayers were about equal to the sum of the amounts realized in 1996 and 2001. The fall from 2000 to 2001 resulted in a revenue decline on the order of $60 billion – roughly 4 percent of federal tax receipts. Yet hardly anyone in Washington had (or has) the stomach for raising tax rates or cutting spending to bring the budget closer to long-term balance.

**Commercial Banks**

The financial system is like the plumbing. When it works, we take it for granted. But when it doesn’t, watch out! Banking is at the center of the financial system, serving both as an intermediary between savers and investors and facilitating payments for everything from groceries to Gulfstreams. When, for whatever reason – insolvency, lack of liquid assets – banks back away from these tasks, the entire economic system risks collapse. And while modern banking is a marvel of financial engineering, its fragility in a crunch has become all too plain.

Assets, especially homes, serve as collateral for bank loans. When real estate markets tank, the banks’ natural defense is to cut back on
lending. And the resulting squeeze on credit can add to recessionary pressures, just when the economy is most vulnerable to a downturn. Indeed, recent experience shows that the impact of a housing bust on lending can be quite large. Commercial banks and other lenders are now being forced to realize losses on the order of $250 billion from real estate. Current estimates suggest that this will drive a contraction of over $1 trillion in lending—an amount equal to roughly 3 percent of all debt outside the financial sector.

In recent years, financial regulators have required banks to maintain balance sheets with significant buffers against such shocks. And in the aftermath of the tech bubble, U.S. commercial banks performed quite well, barely feeling the shocks from the stock market collapse. The same has not been true in the 2007 crisis. As the housing bubble burst, mortgage losses have not only affected the willingness of banks to make new loans, but also put the solvency of some very big institutions at risk.

All that said, it’s hard not to conclude that bubbles can defeat the best-laid plans of the monetary policymakers. But engineering soft landings that do not stop or reverse economic growth is more easily wished than managed.

HARNESSING THE BEAST
Start with the difficulty of differentiating asset bubbles from shifts in relative prices that reflect genuine scarcity. Indeed, central bankers as a group are inclined to the view that bubbles can only be identified after they burst.

My main problem with this line of argument is that policymakers almost always are (rightly) asked to intervene before they have all the facts. Monetary policy is always made without strong evidence of future currency-exchange rates or commodity prices. Will oil be $40 a barrel or $90 a barrel in six months? Your guess is just about as good as theirs. For that matter, the Fed must settle for anecdotal evidence even in estimating the current rate of economic growth. As this piece is being written, no one really knows whether the American economy is already in recession.

Why, then, are policymakers so inclined to ignore changes in asset prices? My guess is that, like most economists, the movers and shakers in monetary policy are believers in
the gospel according to Eugene Fama, the University of Chicago finance pioneer. Fama put forth the efficient-markets hypothesis – namely, the idea that all available information is already factored into the determination of asset prices. This leaves policymakers with no way to decide whether asset prices are too high or too low, or whether banks and other financial intermediaries are at risk of losing their loan collateral.

The trouble with this argument is that there are many circumstances in which the efficient-markets logic fails. Even if everyone knows that there is a bubble, there is a broad set of circumstances under which it will not be eliminated by buyers and sellers seeking their own advantage. Take the entirely realistic case in which an individual investor cannot identify which money manager is good at the job and which isn’t. In order to decide whether to change managers, an investor typically monitors the manager’s short-term performance against some market-wide benchmark. And this gives money managers a strong incentive to invest in ways that keep their returns close to the benchmark.

To understand the implications, assume there is a stock-market bubble that is sure to burst and that some money managers know this. Will they (and their clients) be able to profit from the knowledge? The answer is almost surely no. The most successful investment strategy built on knowledge of a coming downturn requires betting that stock prices will fall. As a practical matter, this means selling short: borrowing stock and selling it with the idea of buying the shares back and returning them to the lender after the bubble bursts.

But until the bubble bursts, the strategy is certain to generate losses. And since these losses are occurring while the bubble is still inflating, a money manager who shorts stocks will perform badly compared to the benchmark and investors will take their money and run. Understanding this, the manager has no incentive to act on his knowledge of the coming bust. The efficient-markets hypothesis fails because skeptical, profit-seeking institutional investors don’t drive prices down even when they understand that assets are overpriced.

The issue for central bankers should not be whether bubbles can be identified with absolute certainty, any more than the issue for
**ASSET BUBBLES**

General Motors is knowing precisely how many cars will be sold next year. There are a variety of indicators that can be brought to bear on the question of whether assets are overpriced – for example, the ratio of price to earnings for stocks, or the ratio of market prices to rents for housing. In recent years, these measures rose significantly above their historical levels.

House prices have typically been something like 14 times their annual rental rate. By mid-2006, prices had risen to more than 18 times rent. Something similar happened to stocks during the late 1990s, when prices were so high that investors could not reasonably expect to earn a return greater than the return on truly riskless securities like Treasury bills.

If the Fed did choose to react to bubbles, what could it do? The most widely discussed possibilities fall into three broad categories:

- Take them into account only insofar as they influence forecasts of future inflation.
- Act only after a bubble bursts, buffering the impact on lending, spending and confidence in banks.
- Use regulatory measures both to keep bubbles from developing and to reduce the collateral damage if they do occur.

**Stick to the Inflationary Impact**

Before joining the Fed, its current chairman, Ben Bernanke, and his research collaborator, Mark Gertler of New York University, wrote that a direct reaction to asset-price booms carries with it the risk of further destabilizing the economy. They concluded that monetary policy should focus on price inflation in goods and services – and that’s it.

My view is that we can do better. Indeed, focusing on inflation alone can be seriously misleading because, as asset prices boom, the inflation rate is likely to fall. This was the case (though for different reasons) during both the tech-stock bubble of the 1990s and the housing bubble that recently ended.

The argument for reacting only to inflation forecasts raises the question of how we should measure inflation. This is not an arcane matter best left to technocrats, especially in the context of how to price the (very substantial) services provided by housing. In the United States, the Consumer Price Index includes an estimate of changes in the price of
owner-occupied housing services as measured by the rents being paid for non-owner-occupied houses. But this approach fails to account for movements in market prices of the houses. And, ironically, when home prices are booming, residential rents tend to be depressed because large numbers of houses are being built (and rented out) in expectation of price appreciation.

A reasonable compromise here is to assume that the true price of housing services is proportional to the cost of the house, and simply substitute current transaction prices in the index. Such a change would have a substantial impact on measured inflation and hence on policy. Over the first five years of this decade, it would have increased estimates of inflation by between one-half and three-quarters of a percentage point annually – substantial numbers in an era in which standard inflation measures were running about 2 percent annually. Inflation in that range surely would have triggered a very different stance on the part of the Federal Reserve, which stuck to an easy-credit policy that set target interest rates below 2 percent for much of this period.

Wait for the Bust and Clean up the Mess

Alan Greenspan, Ben Bernanke’s predecessor at the Fed, concluded that the case for intervening in asset-price run-ups was inadequate. All monetary policy could do, he seemed to believe, was comfort the wounded and bury the dead after the bust.

Greenspan’s argument had two parts. First, he asserted that a policymaker could be sufficiently certain that a bubble was present only after it burst. (Shades of Fama.) Second, he claimed that even if one could identify a bubble with any reliability, there is no low-risk, low-cost way of counteracting its initial growth.

He’s got a point, at least on the second part of the argument: adjusting interest rates – the classic Fed fix for all occasions – in a way that reduces the impact of a bubble is particularly challenging. The difficulty arises from the fact that interest rates influence real economic activity – notably investment in business equipment and the like – with a substantial time lag. Thus, to cope with the future consequences of an asset crash, policymakers would need to set interest rates low long before the bubble burst.
**Asset Bubbles**

But lowering interest rates as the bubble is inflating feeds the ability of traders to bid up asset prices, causing the bubble to get even bigger before reality sets in. This implies that in order to use the interest-rate tool effectively, policymakers would have to detect the bubble in its infancy – something that most people agree is nearly impossible to do.

**Alternative Tools**

That suggests that interest rates are not the right instrument for the job. But are there more effective alternatives? Let me frame the problem as I see it.

The damage that asset-price bubbles cause to the real economy is transmitted through the financial system. And the more developed the financial system, the more widespread the impact. So the sorts of financial innovation that, for example, have permitted homebuyers in Omaha to finance their purchases cheaply in Oslo or Shanghai exacerbates the consequences of equity and real estate bubbles.

This is not an adequate rationale for inhibiting the rise of cheap, efficient mechanisms for minimizing costs in financial transactions and channeling risk toward investors most willing to bear it. Financial development is unambiguously a good thing, raising economies’ potential for growth as well as reducing the volatility of growth.

But by providing households with a mechanism for increasing leverage – that is, the ability to borrow more with less collateral – the financial system could be increasing the chances of catastrophe. Ready access to loans allows individuals to bid up the prices of existing homes and has the potential to create financial pyramids in which the fundamentals of the underlying market are increasingly ignored.

What’s more, housing bubbles tend to be geographically limited, so the damage is disproportionately felt in concentrated areas. Think about Riverside County, on the edge of the Los Angeles sprawl, where the housing frenzy burned brightest at the very end, and mortgage default rates are among the highest in the nation.

How, then, might we keep the benefits of a sophisticated financial system without paying
the costs in terms of bubbles? Through selective direct regulation to restrain lenders or borrowers, or both.

Regulation of the lending side is not promising. Controls would involve adjustments to banks’ incentives to make loans of various sorts – that is, changes in what are called “risk-based capital requirements.” This would be extremely difficult because the adjustments would be complicated and the rules ripe for evasion. The essence of modern financial engineering is to make it possible for institutions to bear risk as they see fit, and the potential cost of second-guessing their decisions would be substantial.

The alternative is to adjust borrowers’ qualification requirements to the economic environment. For example, minimum down payments could be varied in tune with changes in the ratio of average house prices to rental rates. Alternatively, the amount of debt a borrower would be permitted to bear could be linked to long-term interest rates, even if the borrower chose a variable-rate mortgage keyed to short-term rates. There are many possibilities, and we need to explore them.

**FED POLICY IN PERSPECTIVE**

When the dust settles, will we conclude that very low interest rates were needed to ensure that the recession of 2001 remained mild, and that modest inflation did not spiral down into deflation? Or, will we see the policy of 2001 to 2006 as missing what should have been a high-priority goal – biting the housing bubble before it bit us?

With hindsight, it is plain that the rush to easier credit in 2001 and 2002 was an error that helped propel the housing boom. But even without hindsight, I would argue that the Fed was behind the learning curve in choosing to treat the housing bubble as too difficult to analyze, much less to permit to influence monetary policy.

Less-is-more policies worked very well for the Fed between the brutal intervention that stopped inflation dead in the early 1980s and the stock market crash that ended the 20th century. But it is time to acknowledge that we know enough about bubbles and their containment – not to mention about the consequences of failing to contain them – to stop ignoring them as they inflate.