

# The wrong tool for the right job

The Fed shouldn't raise interest rates to manage asset bubbles

**Report** • By [Josh Bivens](#) and [Dean Baker](#) • May 5, 2016

**What this report finds:** Raising interest rates is a poor strategy for managing asset bubbles. Low rates did not cause the housing bubble of the early 2000s and higher rates would have been ineffective at preventing it. To deflate an asset bubble interest rates would have to be raised to levels that would cause enormous damage to the labor market.

**Why this matters:** Some policymakers are calling on the Federal Reserve to raise short-term interest rates to prevent the types of asset bubbles whose implosion caused the last two recessions. There is no significant bubble in the economy right now and, even if there were, raising rates should be a last resort. If the Fed raised interest rates it would do little to deflate any bubbles but do a lot of damage to the economy: unemployment would increase and already struggling wages would grow even more slowly.

**How we can fix the problem:** Policymakers should stop invoking asset bubbles as an argument for raising interest rates. There are better tools for deflating asset bubbles before they grow big enough to damage the economy:

- **Communications.** The Fed can issue statements warning of an asset bubble, present data demonstrating the misalignment of asset prices and economic fundamentals, and warn market actors that it is prepared to take steps necessary to deflate the bubble.
- **Deleveraging.** The Fed and other regulators, such as the Federal Housing Administration, could require that potential buyers of homes and stock front more of their own, versus borrowed, money to make those purchases. Allowing less leverage would curb bidding up of asset prices.
- **Supervision.** The Fed could require that financial institutions be prudently managed. This includes requiring larger capital buffers and a higher percentage of liquid assets on their balance sheets. This could also include requiring these firms to set aside more capital for especially risky assets and to account for how they would absorb large losses in particular asset classes.

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# Introduction and key findings

The pace and timing of interest rate increases by the Federal Reserve will be one of the most important policy issues in coming years. Traditionally, this debate has been a pretty straightforward attempt to balance the benefits of tighter labor markets—lower unemployment, more hours of work available, and faster wage growth—against the costs of accelerating inflation.

In recent years, however, a number of economists, commentators, and even Fed policymakers<sup>1</sup> have added another argument: that higher interest rates are necessary for avoiding the kinds of asset bubbles that led to a recession in both 2001, when the bubble was in the stock market, and 2008, when the bubble was in home prices.

Deflating asset bubbles before they grow big enough to damage the economy is a worthy goal, but it is not a convincing rationale for raising short-term interest rates. Lower short-term rates are not a sufficient condition for bubbles to appear, and likely aren't even a necessary condition; indeed, the claim that low interest rates in the early 2000s caused the housing bubble is substantially wrong. On the flip side, raising short-term rates is not a particularly effective tool for bursting bubbles. And given the collateral damage that results from raising interest rates—higher unemployment and slower wage growth for most workers—it is a particularly bad tool to use, and a terrible tool to pick up first, if you are worried about bubbles.

This brief highlights the case against using short-term interest rate increases as a primary tool in the fight against asset bubbles. Its key findings are:

- The early 2000s housing bubble was not driven by low interest rate policy. Many countries—several with tighter monetary policies than the United States had at the time—experienced housing bubbles in the early 2000s.
- The historical evidence shows that raising short-term interest rates is a largely ineffective tool for fighting bubbles. The scale of rate increases that would be needed to deflate an asset bubble are large enough to cause enormous damage to the real (i.e., nonfinancial) economy.
- The Federal Reserve and other regulators have numerous tools besides raising short-term interest rates to combat asset bubbles, and increases in short-term rates should not be considered at all until all of these other tools are used. These tools can broadly be characterized as communication, deleveraging, and supervision.
  - *Communication.* Researchers and policymakers have recently noted the importance of Fed communication in shaping financial markets. This logic should extend to preventing bubbles.
  - *Deleveraging.* An enabler of asset bubbles is the leverage that investors take on to purchase ever-more-expensive assets. The Federal Reserve and other regulators have tools that can deleverage the demand for assets. One example is increasing margin requirements to make it harder to purchase stocks with debt. Another is increasing the share of a home's price that must be paid upfront.

- *Supervision.* Besides the leverage taken on by purchasers, another key feature of the latest financial crisis was excess leverage and deficient liquidity of financial institutions themselves. In its role in supervising the banking sector, the Federal Reserve has the opportunity to monitor financial institutions to ensure that the twin problems of liquidity and leverage do not enable bubbles or amplify the effect of their bursting.

## Can interest rates cause or stop bubbles? The case of the 2000s housing bubble

Asset market bubbles caused the last two recessions in the United States, and the latest downturn was the worst economic crisis since the Great Depression. Some critics of the Fed's accommodative interest rate policy during and after the Great Recession have argued that it was precisely such a policy—too-accommodative interest rates during and after the 2001 recession—that inflated the housing bubble. Did the Fed make a mistake in keeping interest rates low for an extended period in the early 2000s? The answer to this question can help inform whether interest rate policy should be a primary tool in checking asset bubbles.

The argument rests on claims that, as the housing bubble inflated in the early 2000s, the Fed kept short-term interest rates much lower than economic conditions warranted. Since low interest rates should, all else equal, encourage borrowing, and since mortgage debt is by far the single largest category of household borrowing, the case continues that easy credit engineered by the Fed pumped up the demand for homes and inflated the bubble. The corollary to this argument is that, rather than keeping rates low, the Fed should have raised rates once the 2001 recession ended.

There are a number of reasons to reject this diagnosis and the proposed cure.

First, studies that have estimated the magnitude to which interest rates drove the rise and fall of home prices in the 2000s find very modest effects. Glaeser et al. (2012), who examined the relationship between home prices and long-term interest rates, find that less than a quarter of the increase in home prices in the 2000s can be linked to low interest rates. Importantly, however, the long-term rates examined by Glaeser et al. (2012) are not necessarily a good indicator of the Fed's short-term interest rate decisions. In the mid-2000s longer term rates remained stubbornly low even as the Fed hiked short-term rates. Given this disconnect between the Fed's policy rates and the longer-term rates examined by Glaeser et al. (2012), the direct effects of the Fed's policy decisions on home price appreciation in the early 2000s are likely small indeed. This interpretation is buttressed by Kuttner (2012), who reviewed the empirical literature directly relating home price appreciation and short-term interest rates controlled by the Fed. He finds that the connection between the two is far too small to implicate the Fed's interest rate policy as a significant driver of home price gains.

Second, the reduction in short-term interest rates didn't coincide nearly tightly enough over the period of rapid home price growth to indicate a strong link. Home prices began rising in the late 1990s, as interest rates were being increased. The pace of price growth did rise in the early 2000s as interest rates were lowered, but the pace of growth remained torrid between 2004 and 2006 as interest rates were being sharply increased. In short, the sharp rise in prices began in a period of rising rates and persisted nearly undiminished during another period of rising rates.

Third, other countries with relatively tight interest rate policies were nevertheless experiencing housing bubbles at the same time we were. Home prices in France, Denmark, and the United Kingdom (among others) rose faster than in the United States from 2001 to 2006, yet monetary policy in those countries was tighter than in the United States relative to their inflation and unemployment rates (i.e., applying a neutral "Taylor rule," discussed in the next section). While former Fed Chair Ben Bernanke obviously has some stake in arguing that low interest rates did not spur the home price bubble, his data on cross-country comparisons of monetary policy tightness and home price appreciation—displayed in **Figure A**—are compelling. The horizontal axis is an indicator of monetary policy tightness in the context of inflation and unemployment rates, and the vertical axis shows the change in inflation-adjusted home price appreciation between 2001 and 2006. The random array of dots in this scatter-plot indicates that there is very little relationship between measures of home price appreciation and the tightness of monetary policy in this group of countries.<sup>2</sup>

Finally, there are many solid macroeconomic reasons why interest rates *should* have been kept low in the early 2000s. Employment growth following the 2001 recession was by far the weakest of any recovery in the postwar period. Between 1948 and 1990, it took an average of 13 months from the end of a recession to fully regain all employment losses. Yet it took 38 months following the 2001 recession. In fact, employment growth did not even turn consistently positive until August 2003, 21 months after the official end of the recession. The notion that interest rates should have been sharply increased even while jobs were still being actively shed in the economy is hard to credit.

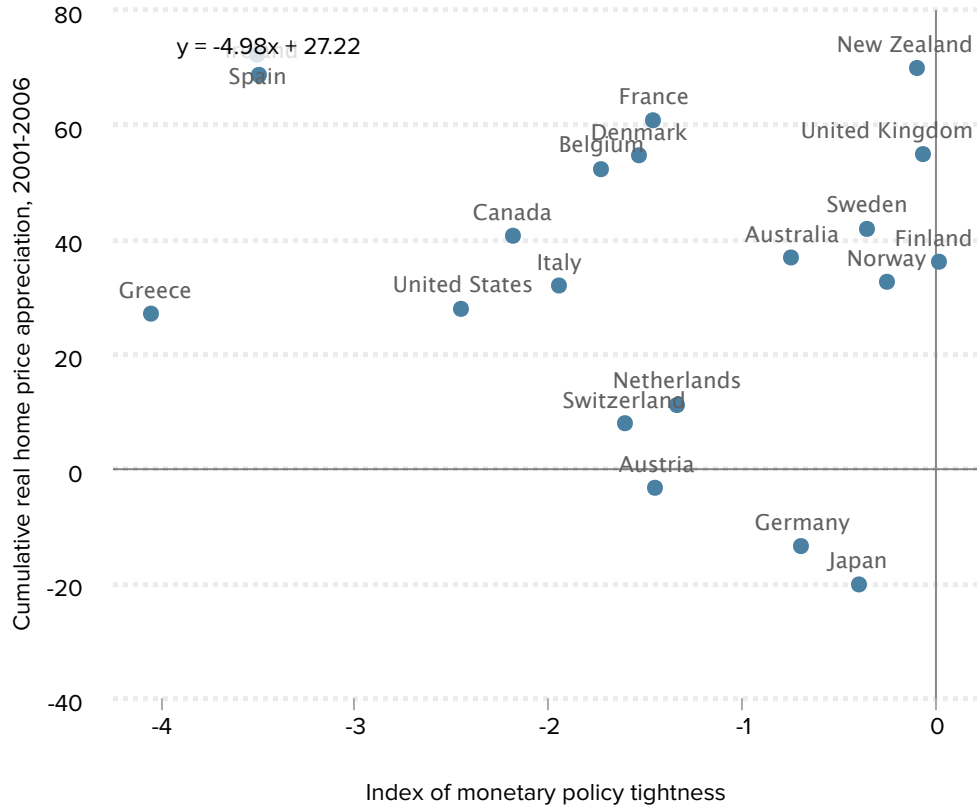
## If low rates didn't cause the bubble, could higher rates have stopped it?

An interest rate increase capable of deflating the home price bubble would have to have been enormous. This can be seen by applying a standard "Taylor rule" to assume that the Fed determined interest rate policy in the 2000s by weighting deviations from unemployment and inflation targets equally. The Taylor rule argues that the interest rates under the Fed's control should be changed based on a weighted average of expected inflation and productive slack in the economy. As expected inflation rises, the Taylor rule argues for rates to rise in order to cool the economy; when productive slack rises, rates should fall in order to spur spending that will fire up the economy. A common criticism of Fed behavior in the early 2000s was that it kept interest rates below (far below, it is often implied) what a neutral Taylor rule would have recommended.

Figure A

## Weak link between monetary policy and home prices between 2001 and 2006

Relationship between change in home prices and tightness of monetary policy in select countries



**Note:** Monetary policy tightens moving left to right on the x axis.

**Source:** Bernanke (2010)

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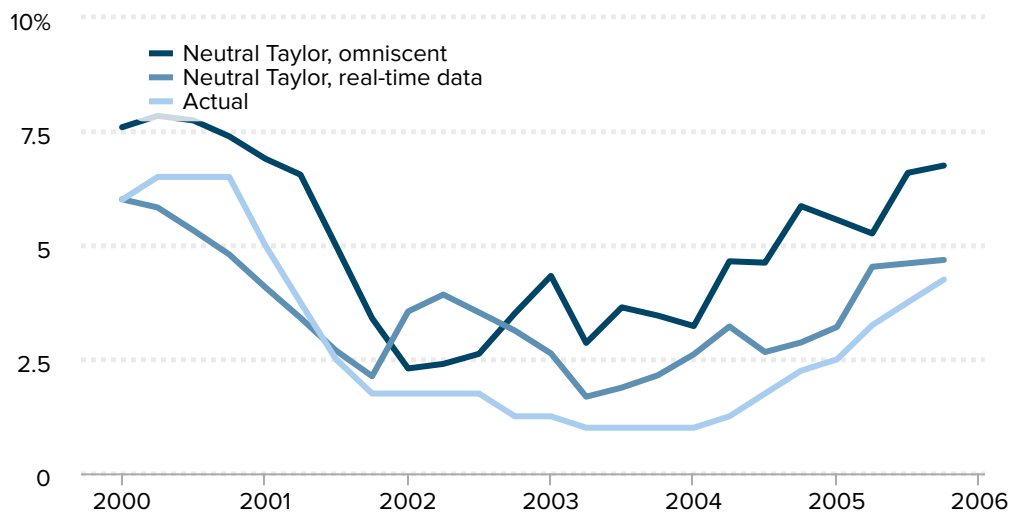
But this criticism turns out not to be true. Applying a neutral Taylor rule that weights inflationary expectations the same as concerns about the economy underperforming its potential would have led the Fed to adopt a path of interest rates very much like it actually pursued in the early 2000s.

**Figure B**, reproduced from Bernanke (2010), shows the actual federal funds rate (FFR, or the key Federal Reserve policy interest rate), as well as two measures of what this rate would have been following a neutral Taylor rule. One Taylor-rule line shows the likely FFR had the Fed followed this rule using available real-time data. But these real-time data were subject to revisions, and these revisions later led to higher rates of price inflation in subsequent data releases. So the other Taylor-rule line shows the likely FFR had an omniscient Fed looked into the future and saw the final reported rates of inflation.

Figure B

## Too low for too long?

Actual interest rates and those implied by “neutral” Taylor rules with equal weights on inflation and unemployment deviations between 2000 and 2006



Source: Reproduced using data from Bernanke (2010)

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The line showing actual interest rates illustrates that the Fed did keep rates slightly below what a neutral Taylor rule would have yielded. This might have been a good thing: at very low rates of inflation (in the Fed’s preferred measure it averaged just 1.7 percent in 2003 and 2004), it is far from clear that the Fed should weigh unemployment and inflation concerns equally when coming out of a stubborn employment recession, as was the case in the early 2000s. But just in terms of precluding a bubble, even the rates set by an omniscient Fed would not have been anywhere near large enough to suppress the large increase in home prices that occurred after 2002 (the year when actual interest rates and neutral Taylor-rule prescriptions diverged).

For example, the difference between the actual FFR and the counterfactual “see the future” Taylor-rule target averaged 2.25 percentage points between 2003 and 2005. In Kuttner’s survey (2012) cited earlier, the 10-quarter effect of a 0.25 percentage-point increase in the FFR on home prices ranges from 0.2 to 0.5 percent. This suggests that the effect of a hypothetical FFR that was 2.25 percentage-point higher on average over that time would have been home prices that were at most 4-5 percent lower than what actually occurred. But real home prices rose by 30 percent in that time. So, even with an omniscient Fed, there would still have been a housing bubble.

Taking the Kuttner (2012) results a step further implies that cutting real home price appreciation in 2003–2005 just in half would have required raising the FFR by 7.75 percentage points above its average rate in those years.<sup>3</sup> Standard estimates of the effect of an FFR change of this magnitude include a rise in the economy’s output gap of roughly 3 percent, leading to a substantial increase (at least 1.5 percentage points) in

unemployment and a core inflation rate substantially below the Fed's long-run targets. In short, using short-term interest rates as an instrument to brake housing price appreciation in those years would have meant the Fed missing both parts of its "dual mandate," with unemployment too high and inflation too low.

In summary, changes in the Fed's short-term interest rates simply don't provide a direct-enough lever on home prices to make short-term rates a useful tool in restraining home prices. Moreover, the collateral damage from raising rates enough to stem a home price bubble would have been enormous. The difference in interest rate policy between what the Fed did in the mid-2000s and what would have been necessary in order for it to stem the housing bubble is not credible as a guide for future practice.

Finally, it is important to note that there is no evidence that the other destructive bubble faced by the U.S. economy in recent years—the bubble in equity markets in the 1990s—was spurred by low rates or would have been amenable to restraint from higher rates. The stock market bubble accelerated just after a sharp increase in Fed-policy interest rates beginning near the end of 1993. The bubble got larger and larger even as rates stayed generally steady throughout the late 1990s. Few economists (we could find none) argued in real time that the Fed caused the stock bubble, leading one to conclude at least that excessively low interest rates are not a necessary condition for bubbles.

All of these considerations highlight the two key weaknesses in the case that interest rate increases should be the primary tool used for fighting asset bubbles: (1) they don't work very well in restraining bubbles, and (2) they often directly harm the nonfinancial sector. This is not a new insight. Tinbergen (1952) identified the need to have as many policy instruments as one has policy targets. Leaning on interest rate policy (one instrument) to restrain financial markets (one target) means that rate policy cannot be used to target full employment. Prudent policymakers hence should look for another instrument to target financial market stability—and one that has more direct effects.

## If not rate increases, then what?

The argument that interest rate policy should not be the primary tool deployed against financial market bubbles is not a recommendation for complacency in the face of bubbles. On the contrary, a key reason for not leaning on interest rate changes to restrain bubbles is that fighting bubbles is too important to be done with policy instruments that are not well-targeted to the task. Instead, the Fed and other financial regulators should adopt other tools aimed at restraining financial sector excess and preventing bubbles. Below we present three classes of tools in the rough order in which policymakers concerned about bubbles should deploy them: communication, supervision, and deleveraging.

### Communication

There has been a growing recognition by researchers and monetary policymakers in recent years of the importance of "forward guidance," the communications channel of Fed



policy. For some reason, however, the usefulness of this communications channel has yet to be fully applied to bubble prevention. But if forward guidance works at all, then central banks may be able to use their stature as respected authorities on the economy to provide information to markets that will shrink, or at least hinder the growth of, a bubble.

There is good reason to believe that statements from central banks—backed up by solid research by the bank’s staff—could have an impact on asset bubbles. First, there is a substantial literature (see for example Geraats 2002 and Kuttner and Posen 1999) on the idea that comments by central banks influence behavior. The argument is that by declaring its adherence to an inflation target, a central bank may be able to convince actors in the economy that it is willing to take strong measures to reach this target. This will lead firms and workers to adjust their inflationary expectations accordingly, with workers reducing their wage demands and firms more actively resisting wage demands if the target were met. The result would be a fall in the inflation rate.

More recently, the focus of central banks on the importance of forward guidance to the markets also suggests that statements by central banks have a direct impact on the behavior of financial market actors. The argument is that, by convincing financial markets of a long-term commitment to sustaining low interest rates, central banks will be able to get actors in the markets to perform in a way that will lower long-term interest rates in the near term.

There is also a literature on the concept of “rational bubbles,” the notion that it may be profitable for actors to invest in bubbles even if they fully understand that current prices are not supported by the fundamentals of the market. They can profit from the run-up in prices as long as they get most of their investment out of the market before it collapses (see Diba and Grossman 1988). If there is validity to the notion that comments from the central bank can influence wage- and price-setting behavior, and that forward guidance can persuade investors to accept lower long-term interest rates, then it should also be the case that talk from the central bank can affect investors’ behavior when a bubble is taking shape, especially if many of the actors are acting rationally. If rational investors come to believe that a central bank is prepared to take strong steps to deflate a bubble, then the perceived risk of a price collapse grows, making investors more likely to exit the market. If enough actors are persuaded to leave the market, then Fed talk will have the desired effect of deflating the bubble.

This is a fairly simple story whereby a central bank could deflate a bubble by convincing market actors that it is prepared to take the steps necessary to deflate the bubble, i.e., raise interest rates or change regulatory rules radically enough to choke off credit growth aimed toward the bubble-inflated asset, even if the bank never carries through with these actions. What would be necessary for this sort of scenario to occur is first that a substantial portion of the actors in the market believe that there is in fact a bubble and therefore a serious risk of a price collapse. Second, they would have to believe that the central bank is prepared to take the steps necessary to collapse the bubble, even if this potentially interferes with other goals such as hitting its inflation target or maintaining high levels of employment.

A limited examination of the response of financial markets in the immediate aftermath of statements from central banks indicates that markets do seem to take such warnings seriously. Alan Greenspan’s “irrational exuberance” comment prompted a decline not only in the U.S. market but also in most major European markets (the German market fell by more than 4.0 percent) and in Japan (which dropped more than 3 percent).

A similar response followed remarks by Fed Chair Janet Yellen in 2014. In congressional testimony she warned that the prices of some social media and biotech stocks appeared to be out of line with their earnings potential. She also noted that junk bonds seemed to be overpriced given their inherent riskiness. Her written statement included the evidence to back up these assertions (Yellen 2014).

No one expected that every investor and fund manager would dump their holdings of these assets based on Yellen’s comments, but fund managers with heavy stakes in these assets would have been looking for new jobs if the price of these assets subsequently plunged and they had no good answer as to why they ignored Yellen’s warnings. In essence, this Fed-talk strategy of bubble-fighting is an attempt to make sure that the “who could have known?” response of financial money managers to the housing bubble will never again be an acceptable excuse.

Yellen’s warnings certainly had some near-term effect, with the price of the assets she identified falling considerably. For example, the share price of Twitter and Facebook fell 1 percent the day after Yellen’s testimony, while Yahoo, Google, and LinkedIn posted slightly smaller losses (Cirilli and Hattem 2014). Yellen also highlighted biotech stocks as being potentially inflated in price, and the iShares Nasdaq biotechnology exchange-traded fund fell by 4 percent in the two days following her talk (Saft 2014).

Unfortunately, neither Greenspan nor Yellen’s initial forward guidance was followed up. But there is little reason to think that there would be diminishing marginal returns to such a strategy.

In regard to Yellen’s 2014 testimony, it was encouraging to see the Fed experiment with this approach. Preventing the excessive growth of asset bubbles is an important task, but it is also important that the Fed carry through this task in a way that doesn’t itself cause serious economic damage. At the moment, there is no obvious asset bubble that would have large macroeconomic consequence if it burst, so Yellen’s decision to not follow up her earlier warning is defensible. If a significant bubble appears in coming years, however, the clear step one could take in addressing it should be simple communication.

## Deleveraging

Many recent bubbles have been aided by leverage—debt taken on to purchase the asset and hence bid up its price. This happened most starkly during the 2000s housing bubble. Rapidly rising prices, all else equal, should have boosted homeowners’ housing wealth. But homeowners’ equity in their houses barely budged, as homeowners took out loans collateralized by their homes’ rising value. Further, as the bubble expanded, financial institutions began offering more and more ways for buyers to purchase and borrow

against homes at ever-high degrees of leverage—some loan-to-value ratios topped 100 percent.

The enabling feature of leverage in boosting the purchase of specific assets means that financial regulators—including the Fed—should impose limits on this leverage for specific assets when prices become delinked from underlying fundamentals.

In the case of housing, this rule implies that the Fed and other regulators, such as the Federal Housing Administration, could begin demanding that potential buyers offer more money upfront (i.e., take on less leverage) when purchasing a home. These limits could vary over the business cycle and with the state of the housing market. Currently, financial market deregulation and the rise of shadow banking have allowed many leverage limits (practical ones, if not legal ones) to amplify home price swings rather than dampen them. Intelligent regulation could stop this.

In the case of equities, buyers sometimes use margin loans to purchase stock. The Fed has the authority to impose higher margin requirements (i.e., restrict how much leverage is taken on) to buy stocks. This strategy was suggested in the late 1990s stock market boom but never implemented. But unlike housing, the direct effect of higher margin limits is likely circumscribed: fewer than 5 percent of stock purchases are done on margin. But the effect of limiting margin buying may be greater than this number would indicate. For one, prices are set not by the average buyer but by the last buyer (the “marginal” buyer, in the jargon). If last buyers are more likely to purchase stocks with the aid of margin loans, their purchases could have an outsized effect on prices. For another, changing margin requirements could be a powerful complement to the pure communications strategy outlined above. It essentially could signal that the Fed is serious if and when it communicates to the investing public that it feels a particular asset class has become overvalued.

## Supervision

The final class of policies that can help avoid asset bubbles is prudent supervision of financial institutions—authority that is firmly in the wheelhouse of the Federal Reserve. This supervision can encompass a number of aspects.

For example, the Fed can institute overall leverage limits or capital requirements on financial institutions themselves, regardless of the composition of their balance sheets. Because higher capital requirements can increase the cost of purchasing assets, they can slow down the process of credit creation. Given that available credit can be a condition for inflating or sustaining bubbles, such increases in capital requirements can be adjusted depending on the state of financial markets. Besides overall capital requirements, the Fed could also apply sector-specific risk weights or capital charges for those assets that look to be bubble-inflated. This requirement would reduce financial institution demand for such assets and hence lean against bubbles.

The Fed can also undertake supervisory stress testing that requires financial institutions to account for how they would absorb large losses in a particular asset class. For example, if

home prices began rising rapidly and threatened to reach 2006 levels again, the Fed could ask banks how they would be affected by a 25 percent fall in national home prices. If the answer is that this drop would cause great financial distress, banks would be required to boost capital and reduce exposure to downward price swings in assets linked to home prices.

A final set of supervisory tools available to the Fed concern liquidity regulations. A key driver of the financial market crises following the housing bubble was the illiquidity of many assets held by financial institutions. Basically, as the depth of the home price collapse became apparent, there were few buyers for the mortgage-backed securities that formed the assets of many financial institutions.

Regulators could remedy liquidity risk in part by having mandates on what share of an institution's assets need to be held in more liquid assets. Highly liquid assets (say Treasury bills) are safer in that there will almost always be ready buyers for them, but they produce lower earnings for financial institutions. As a consequence, minimum liquidity requirements would reduce the demand for (and hence raise the cost of) illiquid, risky assets that can sometimes be the source of bubbles (homes, in the most recent case). Regulators can, of course, vary liquidity requirements over the cycle, increasing them during boom times and relaxing them when the economy and/or credit creation are slowing.

## Conclusion

Asset bubbles have the potential not only to distort the economy but to wreck it. Policymakers arguing for vigilance in avoiding them should be applauded. However, bubbles should be approached and targeted with suitable tools—tools that can reliably affect asset prices without inflicting severe collateral damage on the nonfinancial sectors of the economy. Today many policymakers and commentators are unhappy that the Fed is persisting in its policy of keeping short-term interest rates low or raising them only slowly. They have argued that avoiding bubbles justifies raising these rates even as overall economic activity remains weak and price inflation remains below the Fed's preferred targets. This is unwise. Laying the blame for asset bubbles on low short-term rates disregards economic history and wisdom. Policymakers who are serious about avoiding bubbles should reach for policy tools besides raising short-term rates. These more effective bubble-fighting tools exist; let interest rates hammer their own nails.

## About the authors

**Dean Baker** is the co-director of the Center for Economic and Policy Research. He has written numerous books and articles, including *Getting Back to Full Employment: A Better Bargain for Working People* (with Jared Bernstein) and *Plunder and Blunder: The Rise and Fall of the Bubble Economy*.

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## Endnotes

1. Examples of this argument from Fed policymakers can be found in Stein (2014) and George (2016).
2. Bernanke (2010) further notes that there is a strong correlation between the change in current account deficits and home price appreciation across countries. Those looking for a policy lever to restrain housing bubbles should hence look to exchange-rate policies.
3. We recognize we're pushing these estimates too far. Hiking the FFR up high enough to cause a recession would surely have some spillover effects in reining in price growth through income channels. But that's part of the point—if the argument is that the Fed must engineer an outright recession to avoid excess asset market inflation, then it really does seem to require that a better bubble-fighting tool be found.

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