

# FRBSF ECONOMIC LETTER

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## Monetary Policy and Asset Price Bubbles

In theory at least, an asset price can be separated into a component determined by underlying economic fundamentals and a nonfundamental bubble component that may reflect price speculation or irrational investor euphoria or depression. The expansion of an asset price bubble may lead to a debilitating misallocation of economic resources, and its collapse may cause severe strains on the financial system and destabilize the economy.

Despite these potential problems, the appropriate monetary policy response to an asset price bubble remains unclear and is one of the most contentious issues currently facing central banks. Some have argued that monetary policy should be used to contain or reduce an asset price bubble in order to alleviate its adverse consequences on the economy, while others have argued that such a policy would be both impractical and unproductive given real-world uncertainties about the nature or even existence of bubbles. This *Economic Letter* examines how policymakers might choose between alternative courses of action when confronted with a possible asset price bubble.

### Two monetary policy responses

Two general monetary policy responses to movements in an asset price have been proposed. I refer to the first as “Standard Policy,” because there is widespread agreement that it represents the appropriate baseline policy response. The Standard Policy responds to an asset price only insofar as it conveys information to the central bank about the future path of output and inflation—the goal variables of monetary policy. For example, a booming stock market is usually followed by stronger demand and increased inflationary pressures, so tighter policy would be needed to offset these consequences. Even for the Standard Policy response, it would probably be useful to identify—if possible—the separate fundamental and bubble components of the asset price. In particular, the bubble component may exhibit more volatile dynamics and be a pernicious source of macroeconomic risk, so optimal monetary policy may react more to bubbles than to movements in the fundamental component.

The second type of response, the “Bubble Policy,” follows the Standard Policy as a base case, but, in certain circumstances, it also takes steps to contain or reduce the asset price bubble. Proponents of a Bubble Policy argue that movements in the bubble component can have serious adverse consequences for macroeconomic performance that monetary policy cannot readily offset after the fact, so it is preferable for central banks to try to eliminate this source of macroeconomic fluctuations directly. Furthermore, because bubbles often seem to display a self-reinforcing behavior, a little prevention early on can avoid later excesses.

For example, under ideal circumstances, a policymaker could recognize an expanding asset price bubble. In this case, the Standard Policy would recommend higher interest rates to offset any economic stimulus generated by the bubble. A Bubble Policy would go further and try to reduce the size of the bubble—probably by setting interest rates even higher; in doing so, the Bubble Policy would likely trade off near-term deviations from the central bank’s macroeconomic goals for better overall macroeconomic performance later on. The fundamental difference between the two policies is that the Standard Policy takes the bubble component essentially as given or exogenous, while the Bubble Policy takes into account how the policy instrument can influence the bubble.

### Choosing between Standard and Bubble Policies

A decision tree for choosing between the Standard and Bubble Policies is shown on the next page. In brief, it poses three questions: (1) Can policymakers identify a bubble? (2) Will fallout from a bubble be significant and hard to rectify after the fact? and (3) Is monetary policy the best tool to deflate the bubble?

The first hurdle—Can policymakers identify a bubble?—considers whether the particular asset price appears aligned with fundamentals. Some have argued that either bubbles don’t exist because asset prices reflect the collective information and wisdom of traders in organized markets or, even if they do exist, they cannot be identified because the

requisite estimates of the underlying fundamentals are so imprecise. If policymakers cannot discern a bubble, then the Standard Policy is the only feasible response.

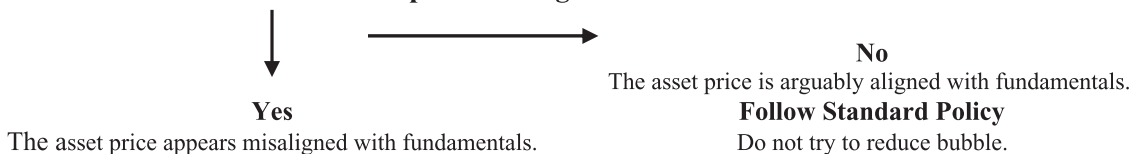
But suppose an asset price bubble is identified. Then the second hurdle is whether bubble fluctuations have significant macroeconomic fallout that monetary policy cannot readily offset after the fact. Two situations prevent clearing this hurdle. First, if the bubble is in an asset market that is small in domestic economic terms—for example, a localized real estate market—then a central banker should avoid attempts at asset price realignment. Second, even when there are significant macroeconomic consequences from an asset price bubble boom and bust, if they occur with a sufficient lag so the policymaker can adopt a wait-and-see attitude, then the Standard Policy is again

appropriate. This second case seems relevant if fluctuations in the bubble component have only conventional effects on aggregate demand and supply through changes in wealth, the cost of capital, and balance sheets. Then, to a first approximation, the lags involved in these channels are about as long as the lags in the monetary transmission mechanism; therefore, the Standard Policy should suffice. For example, fluctuations in equity prices will affect wealth and consumer demand, but a nimble central banker can essentially offset these consequences by changing interest rates in *reaction* to—that is, after—the equity price movements.

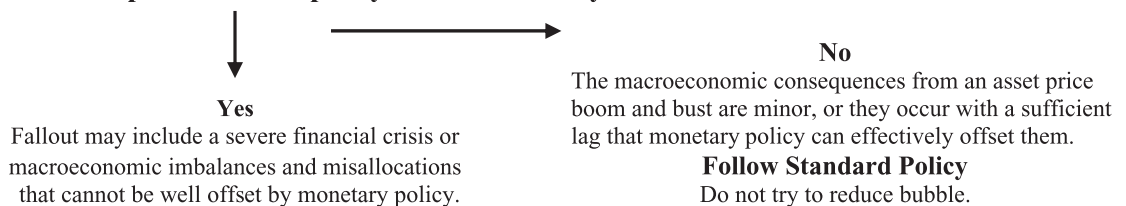
Alternatively, asset price movements could have significant adverse macroeconomic consequences that are hard to alleviate after the fact through monetary policy. The most often mentioned possibility is that a bursting asset price bubble will lead

## Should Monetary Policy Try to Reduce an Asset Price Bubble? (A decision tree to choose between Bubble and Standard Policies)

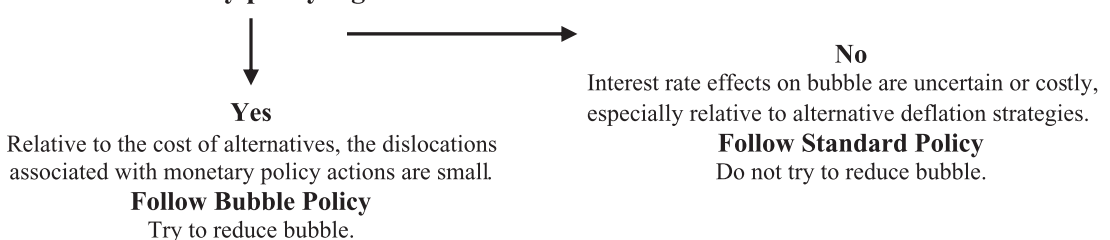
### Question 1. Can a bubble—or asset price misalignment—be identified?



### Question 2. Would bubble fluctuations result in significant macroeconomic problems that policy could not readily offset?



### Question 3. Is monetary policy a good tool to deflate the bubble?



to a broad financial crisis and credit crunch. Such financial instability is likely to be transmitted to the economy much more quickly than can be offset by an interest rate policy. This may set the stage for invoking a Bubble Policy. Another possibility is when the asset price misalignment results in significant misallocations of resources, which distort aggregate demand and supply across sectors and over time and impede the achievement of the highest possible long-run economic growth. For example, the dot-com bubble spurred overinvestment in fiber optic cable and decimated the provision of venture capital for new technology start-ups for years. Of course, after the fact, it is difficult to unwind these problems with the blunt instrument of monetary policy, and, depending on the specifics, it is possible to conceive of a situation in which reducing the bubble in advance is a preferred policy strategy.

The final hurdle before invoking a Bubble Policy involves assessing whether monetary policy is the best way to deflate the asset price bubble. Ideally, for the Bubble Policy, a moderate adjustment of interest rates could constrain the bubble and greatly reduce the risk of severe future macroeconomic dislocations. However, bubbles, even if identified, may not be influenced in a predictable fashion by monetary policy actions. Furthermore, even if changing interest rates could alter the bubble path, such a strategy may involve substantial costs, including near-term deviations from the central bank's macroeconomic goals as well as potential political and moral hazard complications. Finally, even if monetary policy can affect the bubble, alternative strategies to deflate it, such as changes in financial regulation or supervision, may be more targeted and have a lower cost.

### Conclusion

The decision tree for choosing a Bubble Policy poses a daunting triple jump. For example, con-

sider the run-up in the stock market in 1999 and 2000, when there was widespread suspicion that an equity price bubble existed and people worried that it could result in capital misallocation and financial instability. Still, those worries did not spur a Bubble Policy, in large part because it appeared unlikely that monetary policy could have deflated the equity price bubble without substantial costs to the economy. After the fact, of course, the macroeconomic consequences from the apparent boom and bust in equity prices arguably have been manageable.

However, the decision tree does not provide a blanket prohibition on bubble reduction, and as yet, there is no bottom line on the appropriate policy response to asset price bubbles. Those who oppose a Bubble Policy stress the steep informational prerequisites for success, while those who favor it note that policymakers often must act on the basis of incomplete knowledge. Only further research and experience will help settle this debate, and the two conference volumes listed below provide an introduction and references to the research literature.

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### Further Reading

*Asset Price Bubbles: The Implications for Monetary, Regulatory, and International Policies.* 2003. Edited by William Hunter, George Kaufman, and Michael Pomerleano. Cambridge, MA: MIT Press.

*Asset Prices and Monetary Policy.* 2003. Edited by Anthony Richards and Tim Robinson. Reserve Bank of Australia. <http://www.rba.gov.au/PublicationsAndResearch/Conferences/2003/index.html>

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