Money, Prices, and Bubbles

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Both monetary policy and real factors played crucial causal roles in the housing boom and bust. Monetary policy distorted relative prices, particularly intertemporal prices. Prices play a critical role in allocating resources by signaling the relative scarcity of resources. Prices convey information, but when distorted they may mislead.

Nonprice factors also play important roles in guiding investors. These include accounting statements and credit ratings. Institutional change degraded the accuracy of these nonprice factors. Distorted prices, misleading accounting statements, and inflated credit ratings produced what I described elsewhere as an "economy of liars" (O'Driscoll 2010).

Housing policy and regulation of financial services also played important roles in the housing boom and bust. They interacted with monetary and other real factors to produce the financial crisis, which Reinhart and Rogoff (2009: 248) have labeled the "Second Great Contraction." In the sections that follow I examine each of the causal factors in turn.

Markets and Information

The smooth operation of markets depends on flows of reasonably accurate information. In Hayek's classic formulation, the price system is "a mechanism for communicating information" (Hayek [1945]

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1948: 86). Prices are a vital part of the information flows necessary for markets to do their job of allocating resources. Hayek did not assume, however, that prices are always reliable guides, and his work on money and business cycles demonstrated how and when they would mislead.

The Role of Prices

In a market economy, prices signal to buyers and sellers, consumers and producers, the relative importance of goods and services in the economy. Prices economize on the information required to allocate resources across competing ends and users. Prices are assumed to convey accurately the relative intensity of demand for goods and the scarcity of resources. Monopoly, public goods, and sticky prices are analyzed as special cases and are not an issue here.

In Hayek's formulation, a well-functioning price system is capable of bringing about equilibrium—that is, plan compatibility. Whether real-world markets achieve plan coordination depends on their error-correction properties (Hayek [1937a] 1948). Today, most economists accept that, under normal circumstances, markets work tolerably well. One-half of Hayek's analysis has been learned and incorporated into orthodox analysis.

It is the other half of the analysis that I want to emphasize. An elastic supply of money changes the picture. As formulated by Clower ([1965] 1969), money appears on at least one side of every transaction. Money buys goods and goods buy money, but goods do not buy goods. Money is an independent source of demand for output. Money can create demand as compared to a system of barter, and it is an independent driving force in an economy. Changes in the supply and demand for money can affect resource allocation, and they are not *neutral* in their effects on resource allocation (Hayek [1935] 1966).

The prices in microeconomic models are relative prices, but prices in markets are money prices. Neutrality can be a property of a model, but it is not a feature of markets. Money that could not alter demand and supply relationships, and hence relative prices, would not be money at all (Mises 1966: 418). Accordingly, prices may deviate from those that would reflect underlying tastes, technology, and resources (see Leijonhufvud 1981).

Prices of final goods tend to fall due to technological innovation and increased factor productivity (Selgin 1997). That is benign deflation

resulting from real factors. In the United States, periods of benign price deflation have been compatible with strong economic growth. The Greenback period between the end of the Civil War and the resumption of gold payments in 1879 is one of the most notable. Friedman and Schwartz (1963: 15) observed that "the price level fell to half its initial level in the course of the less than fifteen years and, at the same time, economic growth proceeded at a rapid rate." Their examination of the period led them to conclude that the historical record "casts doubts on the validity of the now widely held view that secular price deflation and rapid economic growth are incompatible." The cause of falling prices determines whether deflation is benign or harmful. In the Greenback era, resumption of the gold standard was widely anticipated and price deflation largely expected.

The Greenback period was followed by another extended deflationary period. Prices fell at an annual average rate of more than 1 percent from 1879 to 1897 (Friedman and Schwartz 1963: 91). It was also one of the periods of the strongest economic growth in U.S. history. "The two final decades of the nineteenth century saw a growth of population of over 2 percent per year, rapid extension of the railway network, essential completion of continental settlement, and an extraordinary increase both in the acreage of land in farms and the output of farm products" (Friedman and Schwartz 1963: 92–93).

A policy of price stabilization is an activist one to depress money rates of interest below the natural or equilibrium rate. It would need to do so in order to offset the downward pressure of productivity growth on prices. The equilibrium rate of interest renders the plans of savers and investors compatible. A policy of stabilizing consumer prices renders the plans of savers and investors incompatible. (I prefer equilibrium rate because it is more consistent with the concept of plan compatibility.) Planned investment is stimulated relative to planned saving.

Hayek thus presented central bankers with a conundrum. As is true today, the monetary policy of his day gravitated toward a policy of price stability. But a policy of price stability is inconsistent with savings/investment equilibrium. Such a policy can inflate asset bubbles. We thus have the paradox that a policy of stabilizing a subset of prices (e.g., consumer prices) can destabilize other prices (e.g., investment goods or long-lived assets).

The investment boom or asset bubble is unsustainable because it is inconsistent with the plans of savers. Planned saving out of income

generated in investment booms is insufficient to finance the boom. Monetary policy creates an intertemporal coordination failure. Investment booms sustained by easy money are accordingly self-reversing.

My use of "asset bubble" and boom is conventional. I follow the commonsense definition recently offered by William C. Dudley (2010), president and CEO of the New York Federal Reserve Bank. "By an asset bubble, I mean price increases (or decreases) that become unmoored from fundamental valuations." As he noted, the definition "runs afoul" of the efficient market hypothesis.

The boom continues until something triggers an end to it. Cost pressures may do so. Tightening by a central bank, perhaps in response to cost pressures that work their way into the price index can also end the boom. In the modified gold standard of Hayek's day, a loss of reserves was the ultimate constraint.

The transmission of monetary impulses is through interest rates, asset prices, incomes, and only later final goods prices. The stability of final goods prices masks changes in relative prices, particularly between present and future consumption. Low real rates of interest generate high returns to buying and holding long-lived assets. Low real interest rates have their greatest impact on the value of long-lived assets and on productive activities requiring long periods to fruition. The lower discounting of future output raises the value of such assets and activities.

In the recent housing boom, real rates were negative for at least part of the housing bubble. If we compared relevant rates of interest to expected appreciation in asset prices, borrowing costs had no restraining effects.

In the wake of the rapid growth of subprime and Alt-A mortgages (euphemistically called "financial innovation"), it is debatable what the relevant interest rate was. It was not the fixed 30-year mortgage rate, certainly not for the class of mortgages that caused the crisis. The housing boom saw increased reliance on short-term credit, even one-year ARMs. The 2/28 and 3/27 mortgages were introduced with interest rates fixed for two or three years and then floating.

The shift to short-term mortgage finance occurred in a monetary policy regime promising continued low short-term interest rates. Borrowers expected to be able to roll-over short-term loans. The Fed chairman's questioning of the use of 30-year, fixed-rate mortgages

surely reinforced the trends (Fleckenstein 2004). Participants had every reason to expect the "Greenspan put" to be honored.

Not just the term-structure of mortgages changed, but the terms themselves. Down-payment requirements were eased or waived. Negative-amortization loans came into vogue. The fact is that many putative homeowners were constructively renters with an option to purchase.

The charade still required financing. Mortgages had to be funded before being sold. Firms purchasing mortgages from originators and securitizing them had to fund their operations. These firms included Lehman, and its failure brought to light how very-short-term borrowing was financing the purchases and holdings of MBS. Lehman relied heavily on overnight borrowings. Hence, the speed with which Lehman went from a perceived good credit to totally illiquid.

Mortgage finance had in essence become a carry-trade in which long-term investments were funded with short-term money. The underlying economics were not so different from the flawed model used by Savings and Loans in the 1980s.

The changing financial landscape is important to understand because Gokhale and Van Doren (2009: 7–8) have noted that the correlation between changes in market interest rates and changes in the Fed funds rate altered in the August 2001–March 2009 period from two earlier periods (February 1987–October 1993 and November 1993–July 2001). Generally the correlations in the most recent period between changes in the Fed funds rate and changes in interest rates on long-term debt declined notably. None of them turned negative, however.

This might be troubling if it had happened when the 30-year fixed-rate mortgage ruled. For reasons just discussed, however, that interest rate is not the benchmark for this study. Correlations between changes in the Fed funds rate and short-term rates, even going out to one, two, and three years, held up. As best I could ascertain from talking to knowledgeable observers of the industry, five-year money had become "long-term." Changes in the Fed funds rate ("monetary policy") still drive housing finance. That is true despite all the institutional changes of the last 25 years, most notably the rise of shadow banking (Gorton 2010: 38–45).

Reinhart and Reinhart (2011) present more extensive correlations between short-term interest rates and long-term interest rates (e.g.,

the 30-year fixed-rate mortgage). However, they do not address the *greater* importance of short-term rates in housing finance.

Another issue is factor complementarity among specific capital goods (Lachmann [1956] 1978: 3). Multistage projects must be completed in order to have hope of a positive return. Consumers cannot eat half-baked bread, and firms cannot produce with half-built factories. Nor can families live in partially completed houses. The value of the entire project depends on completing the final stages.

Hayek (1937b) described this as a dynamic in which prior investment raises the demand for capital . The interest rate that would have choked off the project *ex ante* is now well below what would be required to halt the project. The policy lesson is that halting an asset bubble once begun requires significantly higher interest rates than would be required to prevent the inflation of a bubble. That conclusion does not factor in Fisher effects once generalized price inflation becomes incorporated into expectations. A central bank that gets behind the curve in a mania adds greatly to social costs in a game of policy catch-up.

Hayek's analysis explains the observation of Gokhale and Van Doren (2009:8) that "increases in the market short-term rates and the federal funds rate beginning in June 2004 certainly proved insufficient to prevent home price increases for another two years." If rates had remained at normal historical levels, the housing boom would have been muted or not occurred. The fact that the Fed funds rate was brought down to the 1–2 percent range meant that ending the boom would be a long and costly process—and it was.

Fed policymakers have argued they cannot detect bubbles. But history and theory tell us the cause of bubbles: easy money and low (or even negative) real interest rates. Certainly conducting monetary policy is more difficult under a fiat money standard than under a commodity standard with automatic feedback mechanisms. That is an argument for adhering to a monetary rule rather than casting monetary policy adrift in a sea of discretion. A good monetary rule would not allow for negative real rates.

Hayek formulated his theory in a time of large-scale movements of capital and goods across borders. As we once again have experienced, such flows can set up their own dynamic, further stimulating the asset boom. The international capital flows, attracted by the high returns on investing in assets, fuel the bubble. It is a surprisingly contemporary story. Yet Schumpeter (1954: 1122–23 and 1125–26)

assured us that the volatility in construction-related industries over the economic cycle was an established fact no later than 1914.

International capital flows are not an alternative explanation to monetary stimulus, but are part of the monetary analysis of bubbles. The flows are denominated in dollars. In a world of financial integration, the process of creating dollars fuels global capital flows. Yesterday's easy money policy of the Fed drew the savings of Asians into the U.S. housing market. Today's easy money policy of the Fed is fueling a real-estate bubble in Asia. These international capital flows are not conceptually different from those originating with savings in Nebraska flowing into the hot housing market in Las Vegas in 2005.

Global trade flows suppress the inflationary effects of easy money on final goods prices. One-and-a-half billion Chinese integrated into the global trading system put downward pressure on real prices and real wages. Only powerful monetary stimulus could have kept nominal prices and wages close to constant (Leijonhufvud 2007: 5). Meanwhile, monetary stimulus was pushing up the prices of housing and real estate.

The prices of final goods are a subset of all prices. Their constancy may mask changes in the relationship between factor prices and goods' prices, a point emphasized by Machlup (1978). Their constancy also masks changes in the relative prices of long-lived assets, like housing and commercial real estate, compared to those for current consumption. As Leijonhufvud (2007: 5) put it, "The trouble with inflation targeting in present circumstances is that a constant inflation rate gives you absolutely no information about whether your monetary policy is right." Money's effects on real activity work through relative prices (including interest rates). Prices do not change in tandem, but in sequence.

The linkage between monetary expansion and relative prices is not accidental or incidental, but an inherent part of the inflation process. As Horwitz (2003: 81) phrased it, changes in relative prices are "inherent in the very institutional processes by which inflationary increases in the money supply take place."

What happened to the equilibrating role of prices? They are equilibrating only if they convey accurate information. Monetary shocks distort interest rates and prices, causing capital to be misallocated all over the place. Over the course of the housing boom and bust, too much capital was allocated to housing and real estate.

A bloated financial services sector grew up at the expense of industrial capacity and nonfinancial services. The oversupply of housing will depress home prices for years to come, and leave a financial hole in the balance sheets of financial institutions. The excess housing stock does not constitute "more" capital, usable elsewhere, but malinvestment of resources.

What of expectations in this process? Agents use the best available information, but that importantly includes distorted prices and interest rates plus other distorted signals that are discussed next. Agents will do the best they can in an environment of uncertainty and with costs of acquiring information. They do not know, however, the structure of the economy independent of price and nonprice signals, whether accurate or not (Brunner and Meltzer 1993: 38).

Do not investors understand the game must end badly? Perhaps, but that does not conclusively mean they will not pursue short-run profits at the risk of incurring losses later. Keynes's ([1936] 1965: 156–57) beauty contest example suggests they will. It is a contest in which agents form expectations about the expectations of others, who are forming expectations about the expectations of others and so on to the nth degree. It is not a process grounded in underlying, long-run economic relationships and does not lead to an equilibrium outcome (O'Driscoll and Rizzo 1996: 74–75).

Citigroup's then CEO, Chuck Prince, characterized the recent boom as a game of musical chairs. As long as the music played, you had to be up and dancing. When the financial music stopped shortly after that comment, we know what happened to Citigroup, the financial system, and the economy. The system of compensation for executives likely contributes to a greater focus on short-term benefits at the expense of long-run losses.

Nonprice Signals

Prices are not the only signals relied on by investors. A variety of nonprice signals are also critical to the operation of markets. Accounting statements and credit ratings are two of the most important sources of nonprice information.

Accountants verify the accuracy of company statements of their balance sheets and income. The accuracy of accounting statements is as central to the functioning of a capitalist economy as the pricing of capital in the marketplace. Accounting failed to detect the overstatement of asset values on the books of financial institutions.

Many believe the accounting statements for these firms still contain elements of fiction within them.

Asymmetric information creates a demand for knowledgeable third parties to verify the accuracy of seller representations. The third parties are certifiers of quality and safety, and their role is not limited to financial services. UL or Underwriters' Laboratories is a good industrial example (Brearly [1923] 1997). In financial services, credit rating agencies have served as trusted third parties.

Credit rating firms, like Moody's, were founded to provide critical information and maintain the highest ethical standards. John Moody was concerned about accepting money for services with terms that would bias his ratings (Shiller 2008). Arguably the credit rating agencies operated that way for decades in the corporate debt market (Herring and Kane 2010: 1). Their reputation for honesty constituted brand name capital (Klein and Leffler 1981).

Whereas the credit raters had once operated in competitive markets and their wealth depended on reputation, they now operate as government-mandated oligopolies (a shared monopoly). In 1975, the SEC implemented a Nationally Recognized Statistical Rating Organization (NRSRO) category. Money managers, money market funds, and others must use the ratings of Standard and Poor's, Moody's, and Fitch (Review & Outlook 2009). The Credit Rating Agency Reform Act of 2006 tightened the grip of the three agencies. Kane (2009: 409) argues that in effect the SEC delegated to the credit rating agencies supervision over securitization (the "synthetic market").

Not solely profits from competition, but rents from shared monopoly power now determine the market value of these agencies. Issuers and purchasers of securities prefer higher ratings, and can shop among the three credit-raters. Loss of reputational capital for issuing inflated ratings serves as a restraint, but the post-1975 environment provides an income stream regardless of performance.

Whether that institutional change alone can explain their manifest errors of categorization remains a subject of debate. Certainly credit ratings of housing-related securities suffered from massive grade inflation during the housing boom. Herring and Kane (2010: 1) argue that overrating is an equilibrium result, given the interests of issuers, regulated investors, and regulators. The ordinary (unregulated) investor loses against that coalition of interests.

Levy and Peart (2010: 16) argue that credit rating agencies showed an upward bias in ratings once the use of their ratings became mandated by banking regulators. They identify a 1936 ruling by the Comptroller of the Currency as introducing the upward bias. Commercial banks could hold only investment-grade securities, not speculative ones. Credit rating agencies (then four in number) determined which bonds were investment grade. Investors learned how to discount the bias, and credit ratings for corporates were tolerably accurate.

Actors need to rely on information transmitted by price and nonprice signals. Those information flows are necessary conditions for achieving plan compatibility, particularly compatibility among the intertemporal plans of savers and investors.

In the housing boom, we had prices distorted by the effects of money on interest rates. We have an accounting profession whose goal has become adherence to rules rather than truth-telling. There is an overarching accounting principle that accounting statements must fairly and accurately portray the financial position of a company. In practice, however, the mere adherence to rules immunizes accountants from legal consequences.

The market's mechanisms for conveying information about asset values, company profits, and credit risk ceased to convey accurate information. Instead they reported inflated values for assets and for the value of firms owning such assets (Kane 2009: 408), and they understated the risk of those assets. Distorted prices, misleading accounting statements, and inflated credit ratings produced an "economy of liars" (O'Driscoll 2010). It is not that most economic agents were intentionally spreading falsehoods, but they were acting on false valuations.

Housing Policy

The U.S. system of housing finance played a pivotal role in the housing boom and bust. Fannie Mae and Freddie Mac are central to the system. They guaranteed and held a large fraction of mortgage debt for residential housing. A myriad of mortgage providers originated loans for Fannie and Freddie to package into securities. Sometimes these same firms would also compete with the two mortgage giants. Sowell (2009), Melloan (2009), and Wallison (2009) recount the story.

Housing finance was an arm of a broader housing policy: the promotion of home ownership. Home ownership began to take on aspects on an entitlement through subsidies, special programs, and tax benefits. It includes such statutes as the Community Reinvestment Act. "Affordable housing" is one rallying cry of its proponents, and it has been a bipartisan effort.

For example, in 2002 the Bush Administration supported passage of the American Dream Downpayment Act, which subsidized down payments for low-income families. In 2004, Federal Housing Commissioner John Weicher said that "the White House doesn't think those who can afford the monthly payment but have been unable to save for a down payment should be deprived from owning a home" (Sowell 2009: 41). Barney Frank could not have said it better.

Some Republicans have criticized the operations of Fannie Mae and Freddie Mac. These include Peter Wallison from his days in the Reagan administration, Treasury secretary John Snow, and former Fed chairman Alan Greenspan. They generally were concerned with the low level of capital being held by the two institutions and their threat to the financial system as a whole. Their warnings are notable in light of subsequent events. But the broader goal of promoting home ownership continued to be pursued by members of both political parties.

Greenspan must be credited for the warnings he provided. Under his chairmanship, however, the Fed was an enabler of Fannie and Freddie through its policy of low interest rates. Together the Fed, Fannie, and Freddie helped bring down the U.S. financial system. Greenspan was pointing his finger at his accomplices even as he held down interest rates. He understood and even testified about the dangers of the system of housing finance, but like Pilate wanted to wash his hands of the affair.

Some aspects of housing policy are at war with each other. At the local level, zoning and land-use restrictions limit the supply of housing. These policies clash with the demand-enhancing effects of federal programs. We need an "affordable housing" policy because of the "unaffordable housing" policies practiced by states and localities. Affordable housing policies exemplify how one bad policy leads to another.

We have a national market for housing finance, but local markets for houses themselves. Overheated housing markets were

concentrated in certain areas. Often they were where cheap housing finance collided with heavy land-use restrictions. California is the most notable case. Sky-high home prices there, especially in coastal California, are the product of heavy restrictions on supply. Only after the imposition of supply restrictions in the 1970s and later did home prices in coastal and other areas of California escalate above the national average. Neither the growth of income or population, nor the scarcity of land explains that. Public policy does (Sowell 2009: 8–17).

As previously noted, housing is repeatedly subject to boom-and-bust cycles. It is a long-lived asset in relatively inelastic supply in the short run. In many localities, land supply is further restricted by policy and statute. In the 1990s and 2000s, housing policies subsidized demand. In the aftermath of the dotcom bust, the Fed's low interest-rate policy made the financing of mortgages very cheap.

As Diamond and Rajan (2009: 2) have noted, the recent financial crisis had its origins in earlier ones. And, once again, it had global linkages. After the crises in emerging markets in the 1990s, citizens, businesses, and governments in these countries became more cautious. They borrowed less, constrained investment, and reduced consumption. Their savings increasingly went abroad into the United States and elsewhere. That was not a global savings glut, but increased risk aversion on the part of developing countries. "The savings glut was really an investment dearth" (Buttonwood 2010).

Regulation

Financial services regulation failed by almost any metric. Regulatory failure exacerbated the financial crises by allowing risky lending practices to proceed unabated in mortgage lending. Securitization, at least in part, exploded as a way to evade capital requirements and game credit ratings

Consider the position of even regulatory minimalists. The classical night-watchman state is charged with three duties: (1) provision of national defense and security, (2) protection against fraud, and (3) provision of public goods. That conception undergirds both the Declaration of Independence and the U. S. Constitution. The federal government and the states failed miserably to protect against fraud in housing and housing finance. The SEC, the poster child of regulatory

failure, overlooked the Madoff fraud even when the case was made for them by outsiders.

But why did regulation fail? The prevailing view is that agencies lacked needed powers. The underlying theory of the Dodd-Frank Act is that regulatory agencies lacked the means to properly regulate. Therefore, more powers will produce better results.

I take the contrary view that more of the same will produce more of the same. Regulation of complex financial services suffers from a number of problems, the most important of which is regulatory capture (Stigler 1971). In politics, where much is at stake much will be spent lobbying for interests. Regulated industries spend a great deal on lobbying because their profitability is sensitive to how regulations are crafted. Along with health care, another heavily regulated industry, financial services sets the pace on lobbying expenditures (OpenSecrets 2010).

Industry representatives lobby Congress, the regulators, and the media. It is the American way, and, in *Citizens United* (2010), the Supreme Court reaffirmed the right of corporations to spend money on politics to advance their interests. The money spent on campaigns plus the frequent contacts among these groups produce a coincidence of interests and world views. Regulators in particular seldom hear from the public itself, but only organized interest groups (including, of course, those critical of financial services firms but not necessarily representative of the larger public).

Regulatory capture is not limited to financial services and is evident, for instance, in the state regulation of utilities (Van Derbeken 2010). The technical and complex nature of financial services makes it particularly difficult, however, for ordinary citizens to formulate positions on policy issues. That makes financial services particularly susceptible to capture.

Regulators come to identify with the interests of the regulated industry rather than those of the public. Instead of protecting the public against the industry, regulators protect the industry from the public. The chairmen and members of the relevant oversight committees in Congress reinforce that inclination. They respond to campaign contributions fueled by economic rents earned in the regulated industry. Pity the hapless regulator that had attempted to put the brakes on the excesses of the housing boom. He would have heard from the chairmen of the relevant congressional oversight committees.

The revolving door between industry and government reinforces the incentives for regulators to favor industry interests. Regulators who favor industry interests will in turn be favored when seeking positions after departing their government jobs. Kane (2009: 415) wrote of "the de facto corruption of supervisory incentives." Capture ensures that regulators will not constrain firm behavior even if they could.

Other factors reinforce regulatory laxity. Increasingly regulators lack the technical expertise needed to effectively regulate financial activities. In the 1990s, the Office of the Comptroller of the Currency made heroic efforts to keep up with the exploding derivatives markets. They paid premium wages (over standard government pay scales) for well-trained staff. Whatever they could pay, however, was but a fraction of what capable staff could earn on Wall Street creating such instruments. That problem has only worsened since then. The lack of expertise means that regulators of financial services cannot be effective even were they properly motivated.

Additionally, financial services regulators suffer from a variant of the Hayek knowledge problem. The information regulators need to regulate across the industry exists in dispersed form among many individuals. Those individuals have no incentive to convey such information to regulators accurately, and frequently a strong disincentive to do so. One could construct incentive mechanisms to address the problem. In Brazil, for instance, directors of a bank are personally liable if it fails. Such a rule motivates bank directors to assist in constraining excessive risk-taking by bank management. In the United States in the not-so-distant past, shareholders of banks had double liability. A stockholder investing a sum of money in bank stock could be called upon to supply an equal and additional sum. Neither Congress nor regulators have evidenced a desire to put in place such incentive mechanisms.

Finally, as Paul Volcker recently observed, regulation is pro-cyclical (Real Time Economics 2010). In good times, oversight is relaxed in the face of buoyant industry performance. If nothing is wrong, it is hard to justify enhanced regulatory oversight. Even if regulators were so inclined, Congress would be disinclined. Yet bad loans are made in good times. Then in bad times, everyone calls for a crackdown on industry excess. Regulatory oversight increases, reinforcing rising risk aversion. Thus we get pro-cyclical regulation.

It has been suggested that regulatory actions could stop bubbles from inflating. That defies logic. If the Fed's monetary division is busy inflating asset bubbles with low interest rates, will the division of supervision and regulation run around with bureaucratic needles pricking the bubbles? I think not. The Fed treats bubbles as developing independently of monetary policy. But bubbles are very much the product of monetary policy, which is their sustaining cause (O'Driscoll and Rasmussen 2011). The only way to avoid the bad consequences of bursting bubbles is to avoid inflating them in the first place.

The Way Forward

The Fed's policy of low interest rates (low or even negative in real terms) was the sustaining cause of the housing boom. At some point, too late as is usually true, policymakers realized they could not continue that policy. That brought on the crisis and collapse in the overheated housing market. It also brought down the housing finance industry, which is now effectively nationalized.

The Fed's solution has been a renewed policy of low interest rates. It is an Alice-in-Wonderland policy that supposes that what caused a crisis can cure it. As this is being written, the Fed is embarked on further purchases of longer-term government bonds (QE2). There is already a bubble in Treasuries and bonds generally. Investors are going further out on the yield curve, incurring more interest-rate risk, and they are buying lower-rated debt obligations, incurring more credit risk. In the name of providing liquidity to markets, the Fed is once again increasing risk in the system.

The anticipated additional quantitative easing is intended to drive investors into riskier assets (Wessel 2010). When Chairman Bernanke announced the latest round of quantitative easing, he essentially confirmed that the Fed's goal is increasing risk-taking and inflating asset prices by moving investors into bonds and stocks. "Lower corporate bond rates will encourage investment. And higher stock prices will boost consumer wealth and help increase confidence, which can also spur spending" (Bernanke 2010).

In trying to avoid the consequences of the last financial crisis, the Fed is sowing the seeds for the next. It will be a repeat of the Fed's response to the dotcom bust. The Fed has become the

leading source of systemic risk in financial markets. Yet the Fed is charged with regulating systemic risk. It should start by restraining itself.

Low interest rates in the U.S. are fueling a real-estate boom in countries like Hong Kong and Singapore. That reverses the flow of global savings that fueled the U.S. housing boom. Prices for farmland in the Midwest reflect booming food prices and ethanol subsidies. Gold and commodities generally have the appearance of a bubble. We will only know for sure in retrospect.

We have global bubbles, but not global prosperity. The Fed is unable to distinguish between generating bubbles and fostering prosperity. But bubbles burst, and end in crisis and wealth destruction. We have had a 10-year "lost decade" in equities, despite a productivity surge. That is one measure of bad monetary policy.

Households have suffered losses in both their homes and their savings and retirement funds. The Fed may have unwittingly solved the Social Security funding problem, however, as more people will be working longer than ever before.

Misguided housing policies leveraged easy credit and low interest rates into a housing mania, at least in selected markets. Incredibly, these policies remain largely intact. The institutions at the center of the crisis, Fannie Mae and Freddie Mac, continue to incur huge losses at taxpayer expense. Our credit rating agencies issue opinions that are no longer trusted. Accountants issue reports that cannot be relied upon.

Dodd-Frank constitutes a missed opportunity. It is a failure not only for what it does but what it fails to do. It enacts too-big-to-fail in the statute by singling out systemically important banks. It fails to address Fannie Mae and Freddie Mac. Perhaps most importantly, it does nothing to change the incentives facing regulators.

If good times return, no further action will be taken. That is political cyclicality. Serious reform of banking and housing policies will take place only in the wake of another crisis. Monetary reform needs to be on the agenda (O'Driscoll 2009).

Selgin, Lastrapes, and White (2010) provide empirical evidence suggesting the Fed's record has been no better and perhaps worse than that of the National Currency System it replaced. They raise the question of whether the Fed should be replaced. That position deserves serious attention.

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