Executive Summary
Backgrounder
Published by The Heritage Foundation
No. 2331
October 22, 2009

Understanding the Great Global Contagion and Recession

J. D. Foster, Ph.D.

The Great Global Recession began in the United States in December 2007 and will likely continue well into 2010 in many parts of the world. The global contagion began in March 2008 with the collapse of the investment house Bear Stearns. Citizens, analysts, and policymakers are appropriately anxious to understand how this disaster came about and what can be done to prevent a repetition.

The first inkling of a pending recession was felt early in 2005. After four years of extraordinary home building and home price appreciation, the real estate market slowed and then began to implode. Even so, the U.S. economy did not succumb to recession until December 2007. The recession initially was so mild that total economic output was unchanged after 12 months. However, as the overall economy muddled through 2008, tremendous contractionary forces built up below the surface with the epicenter in home financing. The mild U.S. recession that began toward the end of 2007 evolved into a global financial contagion in 2008 and a deep global recession toward the second half of 2008.

The Global Recession. At the outset of the recession, various theories were proposed to explain who or what was at fault, but most have long since fallen by the wayside as events outgrew the theories. In particular, theories specific to the U.S. housing sector, housing finance, and even the United States in general fail to explain the global financial contagion and global recession. These early suspects—including the Community Reinvestment Act and Fannie Mae and Freddie Mac—were at most incidental to the recession's causes.

The global nature of the financial contagion and recession strongly suggests that the essential cause or causes must be global, rather than country-specific. Two explanatory theories stand out, one centered on monetary policy and the other centered on an exceptional, sustained surge in global savings. These theories describe complementary, mutually reinforcing economic forces.

"The Fed Did It" Theory. Monetary policy can lead to asset price bubbles if central banks print too much currency and artificially depress short-term interest rates, leading to excessive speculation and "hot money." The Federal Reserve loosened monetary policy significantly with the onset of the 2000–2001 recession and the subsequent slow recovery. In hindsight, the Federal Reserve clearly appears to have pursued an overly accommodative monetary policy from late 2001 to late 2005 or early 2006, pushing the federal funds rate too low and keeping the rate too low for an extended period.

This paper, in its entirety, can be found at:
www.heritage.org/Research/Economy/bg2331.cfm

Produced by the Thomas A. Roe Institute
for Economic Policy Studies

Published by The Heritage Foundation
214 Massachusetts Avenue, NE
Washington, DC 20002–4999
(202) 546-4400 • heritage.org

Yet was Fed policy sufficiently overly accommodative to be the chief villain? Two factors challenge this explanation. First, the Federal Reserve is the central bank of the United States, not the world. According to a study by the Organisation for Economic Co-operation and Development, while other central banks were similarly overly accommodative for a period, their cumulative efforts were likely not adequate to explain fully the run-up in asset prices and financial imbalances.

Second, short-term interest rates disconnected from long-term rates in this period—the so-called Greenspan conundrum. This suggests the effectiveness of Fed policy in this period was muted, both in terms of the Fed's ability to address the 2000–2001 recession and its effects on asset prices subsequently.

The Global Savings Glut: Alternative Cause or Accomplice to the Fed. Frothy asset prices and historically excessive leverage are sure signs of fundamental distortions in global credit markets. Monetary policy was at least a major contributing factor to these distortions, but an alternative explanation is that a steady, extraordinary surge in global savings exceeded what the global economy could normally absorb in new investment.

The global savings glut likely had a variety of sources, including Chinese trade surpluses, enormous new riches acquired by oil-exporting nations and recycled through the global financial system, and U.S. corporate profits. This glut of saving would be expected to drive down the price of saving as reflected in interest rates. Throughout the middle of this decade, commentators noted that risk seemed to be systematically underpriced as reflected in unusually low longer-term interest rates.

Conclusion. Future analysts and historians will sift through the facts to determine whether the excessive monetary accommodation by the Federal Reserve and other central banks or excessive global saving played the greater role in the conditions that led to the global recession and contagion. Most important for the present is the realization that these forces likely played the major roles; that they are complementary, even mutually reinforcing and operate through credit markets; and that their operation would produce the temporary, extreme run-up in asset prices and misallocation of investment witnessed prior to the collapse.

Understanding the causes of the Great Global Contagion and Recession is not merely a matter of history. It is also important for interpreting events and anticipating problems in the near term as economies around the world struggle to regain vitality. Clearly identifying the true causes and discarding the false ones is also important as policymakers attempt to create new protections against a repetition. In this vein, discarding false theories regarding causal forces that could give rise to unnecessary and economically harmful policies is as important as implementing new policies to address true causes.

—J. D. Foster, Ph.D., is Norman B. Ture Senior Fellow in the Economics of Fiscal Policy in the Thomas A. Roe Institute for Economic Policy Studies at The Heritage Foundation. *The author thanks Dr. Michael J. Boskin of Stanford University and Dr. John B. Taylor of the Hoover Institution and Stanford University for their helpful comments and suggestions. Any errors that remain are the author's responsibility.*

Backgrounder

Published by The Heritage Foundation

No. 2331
October 22, 2009

Understanding the Great Global Contagion and Recession

J. D. Foster, Ph.D.

Abstract: *The Great Global Contagion and Recession was largely the result of a sustained global savings glut combined with excessive monetary accommodation by the Federal Reserve and other central banks. These two complementary and reinforcing forces artificially depressed the price of risk globally, leading to the widespread mis-pricing of assets and misallocation of investment. These effects were enhanced by rapid financial innovation and breathtaking arrogance of leading financial market participants in believing that they understood these innovations. It was also facilitated by a succession of policy failings, most importantly the failure of the United States and Europe to modernize their financial regulatory structures to keep pace with developments in financial markets.*

The Great Global Recession began in the United States in December 2007 and will likely continue well into 2010 in many parts of the world. The global contagion began in March 2008 with the collapse of the investment house Bear Stearns. Citizens, analysts, and policymakers are appropriately anxious to understand how this disaster came about and what can be done to prevent a repetition.

At the outset of the recession, various theories were proposed to explain who or what was at fault, but most have long since fallen by the wayside as events outgrew the theories. In particular, theories specific to the U.S. housing sector, housing finance, and even the United States in general fail to explain the global financial contagion and global recession. The global

Talking Points

- The Great Global Contagion and Recession had many causes, but the global savings glut and excessive monetary accommodation by the Federal Reserve and other central banks stand out as essential and sufficient.
- Saving is supposed to be a good thing, but if markets misallocate trillions of dollars in savings for some reason, then a severe downturn becomes inevitable.
- Monetary policy can lead to asset price bubbles if central banks print too much currency and artificially depress short-term interest rates, leading to excessive speculation and "hot money."
- The global savings glut and the excessive monetary accommodation are not alternative explanations, but rather complementary, mutually reinforcing forces that distorted global credit markets.
- These consequences were further reinforced by the breathtaking arrogance of financial market participants and the widespread willingness of market participants to believe that the usual guides to sound finance and investment had become old-fashioned.

This paper, in its entirety, can be found at:
www.heritage.org/Research/Economy/bg2331.cfm

Produced by the Thomas A. Roe Institute for Economic Policy Studies

Published by The Heritage Foundation
214 Massachusetts Avenue, NE
Washington, DC 20002–4999
(202) 546-4400 • heritage.org

nature of the financial contagion and recession strongly suggests that the essential cause or causes must be global, rather than country-specific.

In coming years a consensus will unfold as to the causes and contributing factors of this global contagion and recession. However, two theories already stand out, one centered on monetary policy and the other centered on an exceptional, sustained surge in global savings. Neither explanation precludes the other from playing a major role. On the contrary, the theories describe complementary, mutually reinforcing economic forces.

Understanding the causes of the Great Global Contagion and Recession is not merely a matter of history. It is also important for interpreting events and anticipating problems in the near term as economies around the world struggle to regain vitality. Clearly identifying the true causes and discarding the false ones is also important as policymakers attempt to create new protections against a repetition. In this vein, discarding false theories regarding causal forces that could give rise to unnecessary and economically harmful policies is as important as implementing new policies to address true causes.

Possible Causes and Theories

Financial contagion arises when profound upheaval in credit markets spreads quickly from one nation to another. A global recession occurs when major national economies contract simultaneously. Although both are highly and harmfully interactive, examining them as separate processes is nevertheless useful because their internal dynamics are so different.

Financial markets are essentially support systems for the broader economy. When financial markets substantially break down, the broader economy necessarily follows suit while the reverse need not be the case. In addition, the processes and the distress in financial markets often occur at lightning speed, such as the near overnight collapse of the investment house Bear Stearns compared to the snail's pace collapse of General Motors. The healing processes of financial markets are likewise fundamentally different than those in the broader economy.

In coming years a consensus will unfold on the essential cause or causes, the contributing forces, and the incidental factors surrounding this global contagion and recession. Much remains to be revealed and additional significant developments may be in the offing, yet two central and superficially competing theories clearly stand out, one centered on monetary policy and the other centered on an exceptional, sustained surge in global savings.

According to the first theory, the Federal Reserve and certain other major central banks around the world sowed the seeds of the financial bubble at the heart of the contagion and recession. Specifically, the theory argues that the Federal Reserve and other central banks pursued overly accommodative monetary policy over an extended period following the recession of 2000–2001 and the initial slow recovery. Monetary policy thus created credit market conditions producing various real estate and related-asset price bubbles. This explanation for the financial bubble has been advanced most forcefully by John Taylor.[1]

The second explanation is that a global glut of excess savings drove down the price of risk in asset markets worldwide, leading to a highly distorted pattern of investment and pricing of assets. Ben Bernanke, then a Federal Reserve Board Governor, appears to have been the first to give clear expression to the global savings glut as an economic factor, although many others have observed its existence and have tabbed it as the source of the asset price bubbles.[2]

Two initial observations about these explanations are in order. First, both explanations point to fundamental, powerful, distorting elements in global credit markets. Both explanations point to forces that drove interest rates downward, effectively

1. See John B. Taylor, *Getting Off Track: How Government Actions and Interventions Caused, Prolonged, and Worsened the Financial Crisis* (Stanford, Calif.: Hoover Institution Press, 2009).
2. See Ben S. Bernanke, "The Global Saving Glut and the U.S. Current Account Deficit," remarks at the Sandridge Lecture, Virginia Association of Economics, Richmond, Virginia, March 2005, at *http://www.federalreserve.gov/boarddocs/speeches/2005/200503102/default.htm* (October 7, 2009).

depressing the price of risk, which created distortions in credit markets and then in the broader economy. The monetary explanation—"the Fed did it"—is that the distortion arose from excessive monetary accommodation. The global savings glut explanation is that the distortion derived from the "real" or non-monetary side of the credit markets—the processes of saving, intermediation, and investment.

Second, both theories have merit in that they describe major forces that led to asset price bubbles and distorted investment patterns. Neither explanation precludes the other explanation from playing a major role. On the contrary, the theories describe complementary, mutually reinforcing economic forces.

The Global Recession

The first inkling of a pending recession was felt early in 2005. After four years of extraordinary home building and home price appreciation, the real estate market slowed and then began to implode. At the same time, oil prices shot up from an average of $41 per barrel in 2004 to a peak of $147 per barrel in July 2008. The rise in oil prices meant a sharp decline in the U.S. in terms of trade, a heightened risk of broader inflation, and a shock to the expected cost structures of a wide swath of industries from trucking to petrochemicals. More immediately, the higher oil prices caused a collapse in the demand for the low-mileage cars, trucks, and SUVs on which domestic automobile manufacturers had long depended for sales volume and profits.

Despite these weaknesses, the U.S. economy remained surprisingly strong, growing about 2.9 percent in 2005 and 2006, finally succumbing to recession in December 2007.[3] The recession initially was so mild that total economic output was unchanged after 12 months. However, as the overall economy muddled through 2008, tremendous contractionary forces built up below the surface with the epicenter in home financing. The onset of declining home sales and prices exposed a series of dangerous weaknesses in home financing involving loans fraudulently obtained by borrowers, shoddy lending practices, and the simple, powerful, widely held, yet errant assumption at the heart of the housing finance complex that housing prices would rise indefinitely.[4]

Declining home sales and prices exposed a series of dangerous weaknesses in home financing involving loans fraudulently obtained by borrowers, shoddy lending practices, and the errant assumption that housing prices would rise indefinitely.

The unraveling of financial markets revealed other serious errors by market participants. Throughout the early part of this decade, financial market observers universally marveled at the efficiency of financial markets in spreading diverse risks over multitudes of participants through a process called securitization and related feats of financial engineering. Spreading risk reduced the apparent level of risk in traditionally risky investments. It also led participants to the false belief that financial wizardry had conquered the demon of great systemic risk, an arrogance that played a central, causal role in the ultimate financial debacle.

At the same time, major financial firms engaged intensively in irresponsible practices involving poorly understood financial innovations, often to circumvent antiquated government regulations. These firms assumed dangerous debt-to-equity ratios that risked their very survival. Credit rating agencies, key guardians of the overall system through their analysis of risk, proved incompetent and sorely conflicted.[5]

When the U.S. housing sector collapsed, it brought down the grand structures of financial

3. Dating of recessions is the province of the Business Cycle Dating Committee of the National Bureau of Economic Research.
4. See Ronald D. Utt, "The Subprime Mortgage Market Collapse: A Primer on the Causes and Possible Solutions," Heritage Foundation *Backgrounder* No. 2127, April 22, 2008, at *http://www.heritage.org/Research/Economy/bg2127.cfm*.
5. For a review of the role of credit rating agencies generally and in the current financial crisis specifically, see Frank Parnay, "Rethinking Regulation of Credit Rating Agencies: An Institutional Investor Perspective," Council of Institutional Investors, April 2009, at *http://www.cii.org/UserFiles/file/CRAWhitePaper04-14-09.pdf* (October 7, 2009).

engineering with it. Sources of strength and diversification suddenly became weaknesses and dangers. Errors great and small were exposed in the harsh light of corrected assumptions and multiplying losses. As the distress spread from specific financial instruments to credit markets to firms, the entire system of credit allocation began to unravel. What began as a U.S. housing problem became a housing finance problem, which became a general problem in the financial markets and finally became a problem for every aspect of the U.S. economy.

In the early months of the U.S. housing and financial markets collapse, much of the rest of the world heaped schadenfreude on what they called the Anglo–Saxon economic model of free markets, entrepreneurship, and relatively light regulation. French and German fingers, in particular, wagged reprovingly at the irresponsible Americans and their relatively light regulations and their heavy reliance on debt, touting instead Europe's heavy reliance on supervision and what proved to be an even heavier reliance on debt.

However, events continued to unfold, relentlessly demonstrating the power of financial distress to reveal mistakes without regard to national borders. While many countries avoided the excesses of the U.S. housing market, few avoided the broader excesses within their financial markets. It quickly became apparent that European financial firms had widely engaged in much the same irresponsible, ill-advised practices as their American counterparts despite the Europeans' heavy-handed regulatory approach. For every Bear Stearns, AIG, or Citigroup that ran aground, a French BNP Paribas, German Hypo Real Estate, or Belgian Fortis was bailed out by its government. Much of the European finger wagging quickly subsided.

In 2009, two more trouble spots emerged from past practices. Commercial real estate in the United States went through its own boom and bust cycle. In Europe, an explosion of lending to emerging Eastern Europe housing markets created yet another housing bubble, which popped, creating tremendous problems both for those countries and for the banks that bankrolled the bubble, especially Austrian and German banks. The full effects of these mistakes will be revealed in the fullness of time.

The mild U.S. recession that began toward the end of 2007 evolved into a global financial contagion in 2008 and a deep global recession toward the second half of 2008. In the spring of 2009, financial markets began to show signs of stabilizing and resuming normal operations. By summer, U.S. banks that had received special funding from the U.S. Treasury began to repay their loans. The actions of central banks around the world, especially the Federal Reserve throughout this period, played major roles through bold, if disconcerting, innovations to protect the functioning of credit markets.

Although occasionally helpful, the federal government's actions during the waning months of the Bush Administration and early months of the Obama Administration were on balance likely harmful in sustaining credit markets through these times.[6] The Troubled Asset Relief Program (TARP) advanced by U.S. Treasury Secretary Henry M. Paulson certainly proved troubling to the markets. Efforts to reform mark-to-market accounting were slow in coming and probably inadequate. Persistent reactive posturing on financial market reforms by Congress, the Bush and Obama Administrations, and international voices bathed the financial markets in new and debilitating uncertainties.

Contributing and Incidental Factors

As the recession initially unfolded and accelerated, many culprits were offered up as causes. Yet these early suspects were at most incidental to the recession's causes.

The Community Reinvestment Act. The first tremors in the subprime housing market drew immediate attention to the role of the Community Reinvestment Act (CRA). Enacted in 1977 and substantially revised in 1995, the CRA sought to

6. See James L. Gattuso, David C. John, and J. D. Foster, "TARP and the Treasury: Time to Let Markets Heal," Heritage Foundation *WebMemo* No. 2131, November 14, 2008, at *http://www.heritage.org/Research/Economy/wm2131.cfm*, and James L. Gattuso and David C. John, "Geithner's Troubling Plan for Troubled Assets," Heritage Foundation *WebMemo* No. 2360, March 25, 2009, at *http://www.heritage.org/Research/Economy/wm2360.cfm*.

increase home ownership by encouraging banks to make loans to individuals with minimal or poor credit histories and who posed a relatively high risk of foreclosure.

While the CRA certainly encouraged behaviors consistent with the broader ills in the housing sector, the Federal Reserve Board staff's research of 2006 mortgage originations strongly suggests that the CRA was likely only a minor or incidental factor.

While the CRA certainly encouraged behaviors consistent with the broader ills in the housing sector, the Federal Reserve Board staff's research of 2006 mortgage originations strongly suggests that the CRA was likely only a minor or incidental factor.[7] As Federal Reserve Governor Elizabeth Duke stated in February 2009, "only 6 percent of higher-priced loans were made by CRA-covered lenders to borrowers and neighborhoods targeted by CRA."[8]

The Federal Reserve study found that mortgage brokers and others not subject to CRA were just as active as the banks subject to the CRA in making inappropriate loans to dubious borrowers: 20 percent of such mortgages were made by lenders not covered by the CRA, while 60 percent of high-priced mortgages went to middle-income and upper-income borrowers. Moreover, as soon became apparent, the subprime market was simply the first housing or financial market in which bad practices were discovered to be widespread.

Fannie Mae and Freddie Mac. Congress created Fannie Mae and Freddie Mac specifically to lower the costs of home borrowing by encouraging the development of the securitized mortgage market. Congress also pushed these government-sponsored entities (GSEs) to expand lending to low-quality borrowers and thereby raise the homeownership rate in America. The key to their financial success, aside from their support in Congress, was an implicit guarantee that the federal government would not let the institutions go bankrupt. This implicit guarantee eliminated a source of risk to GSE bondholders, thus reducing the interest rate markets charged on GSE debt.

The GSEs played roles far greater than only being market makers. They were also for-profit firms, borrowing funds from capital markets at artificially low rates due to the implicit federal guarantee and buying much higher-yielding mortgages and mortgage-backed securities to hold as their own investments.[9]

The significant systemic risk posed by the two GSEs was widely acknowledged. Their operations involved complex assessments of and exposure to risks against which they could not adequately protect themselves. The management of the GSEs insisted in public statements that they were well aware of the risks and had taken all prudent and necessary steps to protect their institutions, but events decisively proved otherwise.

The subprime market was simply the first housing or financial market in which bad practices were discovered to be widespread.

In addition to fundamental miscalculations about the risks to and posed by the GSEs, their management engaged in scandalous accounting practices, including manipulation of earnings to reach earnings targets to maximize bonuses to company executives. For example, Franklin Raines, former Fannie Mae chief executive officer and former budget director under President Bill Clinton, was forced to pay a

7. See Glenn Canner and Neil Bhutta, "Staff Analysis of the Relationship Between the CRA and the Subprime Crisis," Board of Governors of the Federal Reserve System, Division of Research and Statistics, November 21, 2008, at *http://www.federalreserve.gov/newsevents/speech/20081203_analysis.pdf* (October 7, 2009).
8. See Elizabeth A. Duke, "Address to the American Bankers Association," speech at American Bankers Association National Conference for Community Bankers, Phoenix, Arizona, February 16, 2009, at *http://www.federalreserve.gov/newsevents/speech/duke20090216a.htm* (October 7, 2009).
9. See Ronald D. Utt, "Time to Reform Fannie Mae and Freddie Mac," Heritage Foundation *Backgrounder* No. 1861, June 20, 2005, at *http://www.heritage.org/research/governmentreform/bg1861.cfm*.

$24.7 million fine and give up $15.6 million in stock options for his role in the scandal.[10]

The management's assertions about the GSEs' soundness were repeated and reinforced by their patrons in the U.S. Congress. In response to Bush Administration proposals to begin reining in the GSEs, Representative Barney Frank (D–MA), then Ranking Member of the House Financial Services Committee, said: "These two entities—Fannie Mae and Freddie Mac—are not facing any kind of financial crisis," and "[t]he more people exaggerate these problems, the more pressure there is on these companies, the less we will see in terms of affordable housing."[11]

Senator Christopher Dodd (D–CT) joined in his House counterpart's effusive support for the soon-to-be defunct GSEs. On July 13, 2008, Senator Dodd said on national television, "To suggest somehow that [Fannie Mae and Freddie Mac] are in trouble is simply not accurate."[12] Less than two months later the federal government had placed both institutions into receivership, and the Treasury Department had committed up to $400 billion to ensure their ongoing solvency.

Fannie Mae and Freddie Mac played leading roles in the markets at the center of the housing storm. While the costs to the taxpayers are inexcusable and those responsible in and out of Congress should be held accountable, the two GSEs played at most secondary roles in the global financial contagion. The GSE market shares declined dramatically in the middle years of the decade, evidence that private firms were overcoming the GSEs' funding advantage with their own strengths.

While the costs to the taxpayers are inexcusable and those responsible in and out of Congress should be held accountable, Fannie Mae and Freddie Mac played at most secondary roles in the global financial contagion.

If the GSEs' implicit guarantee had been phased out at the turn of the century as many advised, the GSEs would have likely faded from the market and private companies would have handled the entire portfolio of business. The rage of securitization that swept so many credit markets would have continued in housing, and the withering GSEs would have has little or no effect on the financial contagion. However, phasing out the implicit guarantee would have saved the taxpayers tens of billions of dollars in bailout costs.

Tax Cuts. The tax cuts enacted in 2001 and 2003 included significant reductions in income tax rates, a reduction in the capital gains tax rate, a very significant reduction in the dividend tax rate, a temporary phaseout of the death tax, and other elements. Together, these tax cuts ranged between 0.7 percent of GDP in 2001 to a peak of 2.7 percent in 2004, and averaged 1.6 percent of GDP between 2002 and 2008.[13] Over this period, the budget ranged from a surplus of 1.3 percent of GDP in 2001 to a deficit of 3.6 percent in 2004, posting an average deficit of 2 percent of GDP. In contrast, the budget deficit in 2009 came in at 9.9 percent of GDP—almost three times the largest deficit of the Bush Administration.

10. See Associated Press, "Scandal to Cost Ex-Fannie Mae Officers Millions," *The New York Times*, April 19, 2008, at *http://www.nytimes.com/2008/04/19/business/19fannie.html* (October 7, 2009).
11. See Stephen Labaton, "New Agency Proposed to Oversee Freddie Mac and Fannie Mae," *The New York Times*, September 11, 2003, at *http://www.nytimes.com/2003/09/11/business/new-agency-proposed-to-oversee-freddie-mac-and-fannie-mae.html* (October 7, 2009).
12. Jake Lansburgh, "Dodd on Fannie, Freddie: They Are 'Sound,'" CNN Political Ticker, July 13, 2008, at *http://politicalticker.blogs.cnn.com/2008/07/13/dodd-on-fannie-freddie-they-are-sound* (October 7, 2009).
13. Calculations based on Joint Tax Committee data including the following tax legislation: Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA), Job Creation and Worker Assistance Act of 2002 (JCWAA), Jobs and Growth Tax Relief Reconciliation Act of 2003 (JGTRRA), American Jobs Creation Act of 2004 (AJCA), Tax Increase Prevention and Reconciliation Act of 2005 (TIPRA), Gulf Opportunity Zone Act of 2005 (GO Zone), and Working Families Tax Relief Act of 2004 (WFTRA).

Some have asserted that the tax cuts played a major role in the housing bubble and financial contagion, but these assertions defy all logic. For example, nothing in the tax cuts specifically related to housing. While the tax relief, especially the reductions in tax rates, strengthened the economy by reducing the tax-based distortions to economic decision making, at no time did the unemployment rate drop so far as to suggest the overall economy was overheating. Nor can the tax cuts' contributions to the budget deficit be blamed for the housing bubble, financial contagion, or recession. If anything, to the extent tax relief resulted in a higher budget deficit, it would have restrained the housing bubble by exerting upward pressure on mortgage rates.

Other commentators have suggested that the recession evidences the failure of the tax cut policy to strengthen the economy. This, too, is a politically based assertion devoid of economic reasoning. Appropriately designed tax relief focused on improving economic incentives can and did stimulate the economy. If maintained, it will improve performance in the long run. However, tax relief cannot inoculate an economy against every economic shock. To suggest the contrary is to suggest that a proper diet is pointless if it fails to ward off all disease.

Deregulation. Events in financial markets and within major financial firms indicate a clear failure of U.S. and foreign regulatory approaches to financial services. In the United States, this occurred largely because a succession of Congresses and Administrations failed to reform the regulatory framework to keep pace with changes in the financial markets. The issue is more a question of antiquated regulation than one of too much or too little regulation. While the Bush Administration repeatedly proposed modest regulatory reforms at the edges of the financial system, such as a proposal rebuffed repeatedly by Congress to strengthen the federal oversight of Fannie Mae and Freddie Mac, the Bush Administration otherwise did little to regulate or deregulate financial markets prior to 2007.

In 2007, Treasury Secretary Paulson launched a major effort examining the nation's federal financial regulatory structure and issued Treasury's blueprint report in March 2008.[14] While the report was well received as a thoughtful examination of a pressing long-term problem, Congress expressed no interest in moving quickly to address the issues. In any case, the seeds of the current crisis had long since been sown.

The assertion is often made that the Bush Administration's deregulatory policies caused or at least significantly contributed to the financial meltdown and recession. The most obvious fault with these assertions is that, regrettably, the Bush Administration achieved no notable deregulation of financial markets.[15]

An outdated heavy-handed regulatory approach is at least as inadequate and ultimately more harmful to the broader economy as an outdated light-touch regulatory approach.

The only meaningful deregulation in the United States in the modern era was bipartisan legislation signed by President Clinton. Among its many reforms, the Financial Services Modernization Act of 1999 eliminated many artificial barriers between financial firms engaged in commercial banking, investment banking, and insurance.

The 1999 reforms strengthened the financial system by allowing financial firms to operate more rationally according to market pressures. The great weakness is that Congress failed to modernize the financial regulatory apparatus in parallel to developments in the marketplace. Instead, Congress relied on slow-footed national financial regulators using legal authorities developed decades earlier to monitor rapidly evolving, highly nimble, and intrinsically international financial firms and markets.

14. See U.S. Department of the Treasury, *The Department of the Treasury Blueprint for a Modernized Financial Regulatory Structure*, March 2008, at *http://www.treas.gov/press/releases/reports/Blueprint.pdf* (October 7, 2009).
15. James L. Gattuso, "Meltdowns and Myths: Did Deregulation Cause the Financial Crisis?" Heritage Foundation *WebMemo* No. 2109, October 22, 2008, at *http://www.heritage.org/Research/Economy/wm2109.cfm*.

The Bush Administration can be fairly accused of failing to recognize the building systemic threats, but this charge can be leveled against nearly everyone in the financial markets, both parties in Congress, and financial regulatory authorities worldwide. Before they were compelled to bail out their own firms, French President Sarkozy and other European leaders explicitly blamed the "light touch" regulatory approach of the United States and the United Kingdom. As events subsequently and painfully demonstrated in the collapse and bailout of numerous major financial institutions across continental Europe, the heavier, more intrusive continental European approach proved every bit as susceptible to systemic failures. An outdated heavy-handed regulatory approach is at least as inadequate and ultimately more harmful to the broader economy as an outdated light-touch regulatory approach.

Global Financial Contagion and Global Recession

The severe distress in U.S. financial markets was felt in like measure in Europe, beginning with troubles at the French bank BNP Paribas in August 2007. A run on the British bank Northern Rock in September led to its nationalization in February 2008, and problems at the Benelux banking and insurance giant Fortis resulted in its partial nationalization and breakup in late September and October. Many other financial firms in Ireland, Iceland, Germany, Switzerland, and elsewhere suffered enormous losses, forcing governments to take extraordinary measures to prevent a general systemic collapse of European and global credit markets.[16] The scope and surprising rapidity of the collapse as it spread from country to country qualify these events as a global contagion.[17] The special attention given to financial crises generally and contagion specifically is due to the speed at which major events can occur and the very special role that credit markets play in sustaining and advancing the balance of the economy.

The global nature of the financial contagion and recession strongly suggests that the essential cause or causes must be global, rather than country-specific.

As the financial contagion unfolded, even nations largely unaffected by the distress in global credit markets saw their economies turn downward. In particular, the combination of the deep U.S. recession and the difficulties of obtaining trade financing caused the volume of international trade to plummet, hitting China, Japan, Germany, and other countries that have exports-based models especially hard.[18]

The global nature of the financial contagion and recession strongly suggests that the essential cause or causes must be global, rather than country-specific. Of course, the policies within each country may alter the extent and breadth of the downturn, but the critical underlying causes must almost certainly be global to have such broad reach. The two leading candidates are monetary policy and an extraordinary surge of global savings.

"The Fed Did It." Monetary policy can lead to asset price bubbles if central banks print too much currency and artificially depress short-term interest rates, leading to excessive speculation and "hot money." At the same time, if market participants temporarily misjudge economic fundamentals or if they remain confident the central bank will act as necessary to prevent a surge of inflation, then inflation expectations may remain low and well-anchored despite the surge in money creation. Under these circumstances, a decline in short-term interest rates due to a loose money policy will likely spread to longer-term interest rates, spreading the

16. For an excellent timeline of the financial crisis, including European developments, see BBC News, "Timeline: Credit Crunch to Downturn," updated August 7, 2009, at *http://news.bbc.co.uk/2/hi/business/7521250.stm* (October 7, 2009).
17. For a discussion of financial contagions prior to current events, see Sebastian Edwards, "Contagion," University of California Los Angeles, revised March 2000, at *http://www.anderson.ucla.edu/faculty/sebastian.edwards/world_economy5.pdf* (October 7, 2009).
18. See Thomas Dorsey, "Trade Finance Stumbles," *Finance and Development*, March 2009, at *http://www.imf.org/external/pubs/ft/fandd/2009/03/dorsey.htm* (October 7, 2009).

effects of the policy to a wider array of asset prices and economic processes.

The Federal Reserve loosened monetary policy significantly with the onset of the 2000–2001 recession and the subsequent slow recovery. Three consecutive quarters of inflation below 1 percent[19] had raised the specter of a painful deflation, prompting the Federal Reserve to act decisively by reducing the federal funds rate, the Federal Reserve's primary policy instrument, eventually to 1 percent—a rate not seen since 1962.[20]

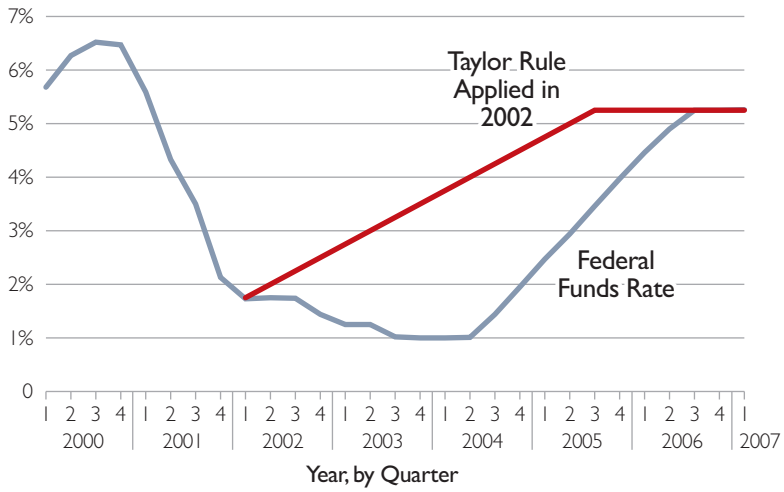
As John Taylor forcefully argues, in hindsight the Federal Reserve appears to have pursued an overly accommodative monetary policy from late 2001 to late 2005 or early 2006, pushing the federal funds rate too low and keeping the rate too low for an extended period.

The Federal Reserve's stimulative excesses during this period are neatly demonstrated by a comparison of the actual federal funds rate with the rate suggested by a counterfactual based on an application of the "Taylor rule." The Taylor rule prescribes how the Federal Reserve should set the federal funds rate to maintain inflation around a target rate given the amount of slack in the overall economy.[21] In short, the Taylor rule says that if inflation is above the target rate, then the Federal Reserve should increase the funds rate by a prescribed amount. If there is slack in the economy, the rule describes the extent to which the funds rate should be lowered. In one form or another, the Taylor rule plays a prominent role in much modern research into the conduct of monetary policy.

The parameter specifications suggested by Taylor—particularly a target inflation rate of 2 percent—indicate that the Federal Reserve was significantly overly accommodative for almost four years from 2002 to 2006. This constitutes a substantial, prolonged error in monetary policy and

The Taylor Rule, Applied in 2002

When applied in 2002, the Taylor rule suggests the Federal Reserve was too lax until midway through 2004, at which time it began raising the Federal Funds Rate.



Sources: Board of Governors of the Federal Reserve System, Federal Reserve Statistical Release H.15: Selected Interest Rates, Historical Data, at *http://www.federalreserve.gov/Releases/H15/data.htm* (October 16, 2009), and author's calculations.

Chart 1 • B 2331 heritage.org

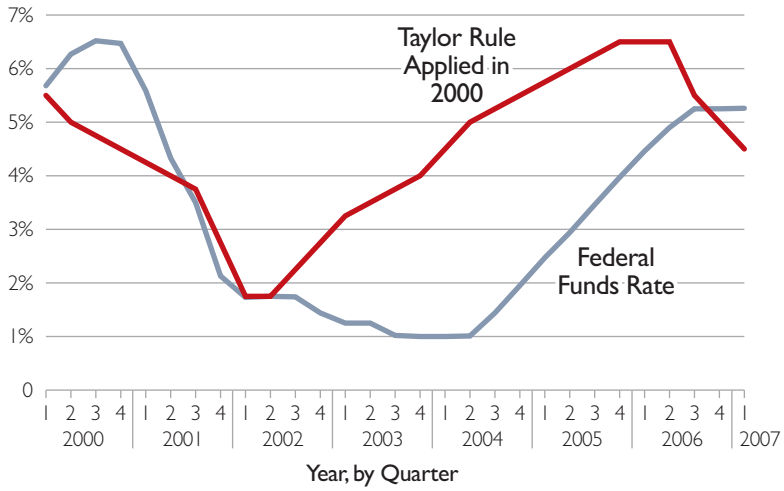
19. According to Bureau of Economic Analysis data, inflation as measured by the personal consumption expenditure deflator was 0.6 percent, 0.6 percent, and 0.9 percent from the third quarter of 2001 through the first quarter of 2002.
20. See Board of Governors of the Federal Reserve Board, Historical Data: Federal Funds, Business Day, at *http://www.federalreserve.gov/releases/h15/data/Business_day/H15_FF_O.txt* (October 7, 2009).
21. The Taylor rule was first discussed in John B. Taylor, "Discretion Versus Policy Rules in Practice," *Carnegie-Rochester Conference Series on Public Policy*, Vol. 39, Issue 1 (December 1993), pp. 195–214, at *http://www.stanford.edu/~johntayl/Papers/Discretion.PDF* (October 7, 2009). It is discussed in the current context in William Poole, "Understanding the Fed," Federal Reserve Bank of St. Louis *Review*, Vol. 89, No. 1 (January/February 2007), pp. 3–13, at *http://research.stlouisfed.org/publications/review/07/01/Poole2.pdf* (October 7, 2009), and John B. Taylor, "Housing and Monetary Policy," paper presented at the Jackson Hole Conference, August 2007, at *http://www.stanford.edu/~johntayl/Housing%20and%20Monetary%20Policy--Taylor--Jackson%20Hole%202007.pdf* (October 7, 2009).

strongly supports the argument that monetary policy at least contributed to the asset price bubble.[22]

An application of the Taylor rule tells two additional, interesting stories as shown in Chart 2, which shows the prescription for the federal funds rate throughout the period. The first story is that the Federal Reserve should have reduced, not increased, the funds rate early in 2000. This suggests the Federal Reserve was overly restrictive throughout 2000 and into 2001, causing or at least contributing significantly to the recession that began in late 2001. In hindsight and to its credit, the Taylor rule would have been a notably better guide to policy than whatever approach Federal Reserve Board Chairman Alan Greenspan was using at the time.

The Taylor Rule, Applied Two Years Earlier

When applied in 2000, the Taylor rule suggests the Federal Reserve was overly restrictive until midway through 2001 and should have begun raising rates rapidly, beginning in 2002.



Sources: Board of Governors of the Federal Reserve System, Federal Reserve Statistical Release H.15: Selected Interest Rates, Historical Data, at *http://www.federalreserve.gov/Releases/H15/data.htm* (October 16, 2009), and author's calculations.

Chart 2 • B 2331 heritage.org

The second story is that the Taylor rule suggests that the Federal Reserve should have raised the funds rate earlier and continued raising the funds rate throughout 2004 and 2005, ultimately reaching about 7 percent by the end of 2005. Thus, according to the rule the Federal Reserve was overly stimulative in the formative years of the bubble and remained much too stimulative long after the bubble began to deflate. Fortunately, the Federal Reserve did not raise rates after 2005 as the Taylor rule prescribes or the current economic calamity would have been significantly worse.

Applying the simple rule throughout the period contrasts with the counterfactual presentation that Taylor uses in which the federal funds rate levels off at 5.25 percent—the top rate the Federal Reserve achieves. A justification for freezing the funds rate at 5.25 percent in the counterfactual is that the economy would have performed notably differently in 2005 and beyond if the Federal Reserve had followed the Taylor rule prescription for the funds rate from 2002 to 2004. For example, a larger output gap would likely have persisted. Similarly, if the funds rate had been higher in the earlier period, the rise in inflation from 2005 through 2007 might have been avoided. For both reasons, raising the funds rate earlier might have rendered a subsequent increase above 5.25 percent unnecessary.[23]

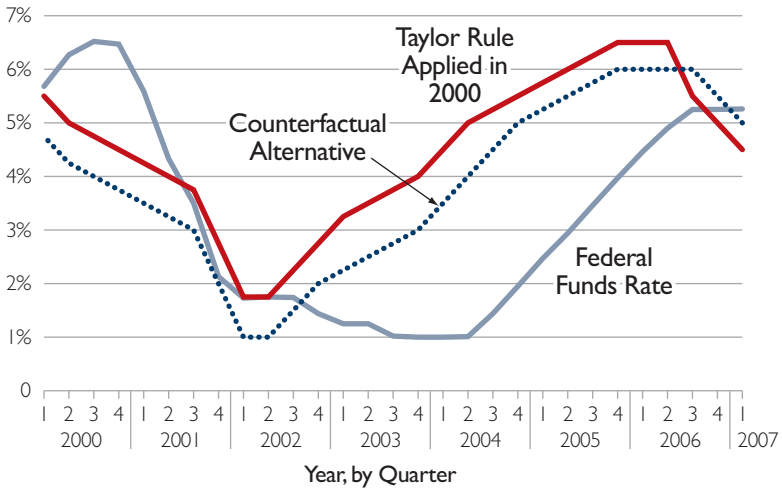
Another consideration is that the conclusion of excessive monetary accommodation based on the Taylor rule depends significantly, although not entirely, on the parameters specified in the rule.

22. See Taylor, *Getting Off Track*, p. 3.
23. Inflation as measured by the personal consumption expenditure index rose above 3 percent in 2005 and reached 4.3 percent in the third quarter of 2008 on a year-over-year basis. News release, "Gross Domestic Product: Second Quarter 2009 (Third Estimate); Corporate Profits: Second Quarter 2009 (Revised Estimate)," U.S. Department of Commerce, Bureau of Economic Analysis, September 30, 2009, Table 6, at *http://www.bea.gov/newsreleases/national/gdp/2009/txt/gdp2q09_3rd.txt* (October 7, 2009).

From 2001 through 2003, the financial markets and the Federal Reserve were deeply concerned about the possibility of deflation. One could represent this concern as a preference for a temporarily higher target inflation rate. For example, one could suppose the Federal Reserve's target inflation rate was perhaps 2.5 percent for this period, returning to 2 percent early in 2005 after the threat of deflation had passed. This alternative Taylor rule specification significantly shifts the counterfactual prescription for the federal funds rate as shown in Chart 3.

Comparing the Taylor Rule to an Alternative

The counterfactual alternative shows the federal funds rate falling to 1 percent toward the end of 2001, matching the low rate set by the Federal Reserve almost two years later.



Sources: Board of Governors of the Federal Reserve System, Federal Reserve Statistical Release H.15: Selected Interest Rates, Historical Data, at *http://www.federalreserve.gov/Releases/H15/data.htm* (October 16, 2009), and author's calculations.

Chart 3 • B 2331 heritage.org

Importantly, the alternative Taylor rule specification would have the Federal Reserve lower the funds rate to 1 percent, rather than only to 1.75 percent, thus eliminating a common criticism that the Federal Reserve had lowered interest rates too far. In addition, under the alternative specification the funds rate would reach 1 percent early in 2002—about a year and a half sooner than actually occurred. The alternative Taylor rule thus suggests the Federal Reserve was too restrictive following the recession, hit the mark on the funds rate too late, and consistently was late again in raising rates.

Even granting the issues noted regarding the Taylor rule prescription relative to actual policy in this period, U.S. monetary policy seems to have been materially overly accommodative and to have contributed significantly to the bubble and subsequent contagion. Yet was Fed policy sufficiently overly accommodative to be the chief villain? Two factors challenge the theory that the Federal Reserve was the chief villain.

First, the Federal Reserve is the central bank of the United States, not the world. Yet the distortions to asset prices and credit allocations were global. For all its influence on world affairs, the Federal Reserve is not powerful enough to do so much damage on its own. Other major central banks, such as the European Central Bank (ECB) and the Bank of London, must pursue similar, overly expansive policies, either independently or following the Federal Reserve's lead. A March 2008 study from the Organisation for Economic Co-operation and Development (OECD) looked into this question.[24]

According to the OECD study, the ECB was overly stimulative in the 2002–2005 period when measuring the short-term interest rate against the Taylor rule prescription, but much less so than that of the Federal Reserve. Canada was also overly stimulative, but the central banks of England, Japan, Australia, and Switzerland were not. The authors conclude:

24. See Rudiger Ahrend, Boris Cournède, and Robert Price, "Monetary Policy, Market Excesses and Financial Turmoil," Organisation for Economic Co-operation and Development, Economics Department *Working Paper* No. 597, March 10, 2008, at *http://www.olis.oecd.org/olis/2008doc.nsf/LinkTo/NT00000D02/$FILE/JT03242013.PDF* (October 7, 2009).

> Monetary policy [in the OECD area] was accommodating over the period 2002–2005, and in combination with rapid financial market innovation, would seem in retrospect to have been among the factors behind the run-up in asset prices and financial imbalances.[25]

In short, the authors conclude that some broad, excessive monetary accommodation was present and that it was "among the factors" that created the conditions for the global financial contagion. This agrees with the thesis that monetary policy was a contributing factor, but does not argue that monetary policy was the essential causal factor.

For all its influence on world affairs, the Federal Reserve is not powerful enough to do so much damage on its own.

Second, when the monetary authority lowers short-term interest rates, longer duration interest rates typically follow suit, at least until expectations of higher inflation arise. However, while the Federal Reserve appears to have been overly accommodative, short-term and long-term interest rates appeared to disconnect, giving rise to the Greenspan "conundrum." As Federal Reserve Board Chairman Greenspan explained in his 2005 testimony:

> In this environment, long-term interest rates have trended lower in recent months even as the Federal Reserve has raised the level of the target federal funds rate by 150 basis points. This development contrasts with most experience, which suggests that, other things being equal, increasing short-term interest rates are normally accompanied by a rise in longer-term yields. The simple mathematics of the yield curve governs the relationship between short- and long-term interest rates. Ten-year yields, for example, can be thought of as an average of ten consecutive one-year forward rates. A rise in the first-year forward rate, which correlates closely with the federal funds rate, would increase the yield on ten-year U.S. Treasury notes even if the more-distant forward rates remain unchanged. Historically, though, even these distant forward rates have tended to rise in association with monetary policy tightening.[26]

The Federal Reserve began a rapid, sustained reduction of the federal funds rate with a 100-basis-point cut in January 2001 from 6.5 percent to 5.5 percent and ended the reductions at 1 percent in June 2003. Prior to these developments, the 10-year Treasury bond rate briefly rose above the 5 percent to 6 percent trading range of the preceding months, but as the funds rate began its descent, the 10-year Treasury bond rate returned to the lower bound of its prior range, remaining at or above 5 percent until the summer of 2002. Even then, it only declined by a single percentage point. In total, over this period the Federal Reserve reduced the funds rate by 5.5 percentage points and then raised it by 4.25 percentage points, while the 10-year Treasury bond rate fluctuated in a narrow band between 4 percent and 5 percent.

Greenspan noted the conundrum that long-term bond rates seemed to have detached from short-term rates. From a monetary policy perspective this was especially troubling because the Federal Reserve's inability to move long-term bond rates meant that monetary policy was relatively ineffective in stimulating (or dampening) the economy. By extension, if monetary policy was relatively ineffective in stimulating the economy, then it was likely less of a factor in building the forces of an asset price bubble.

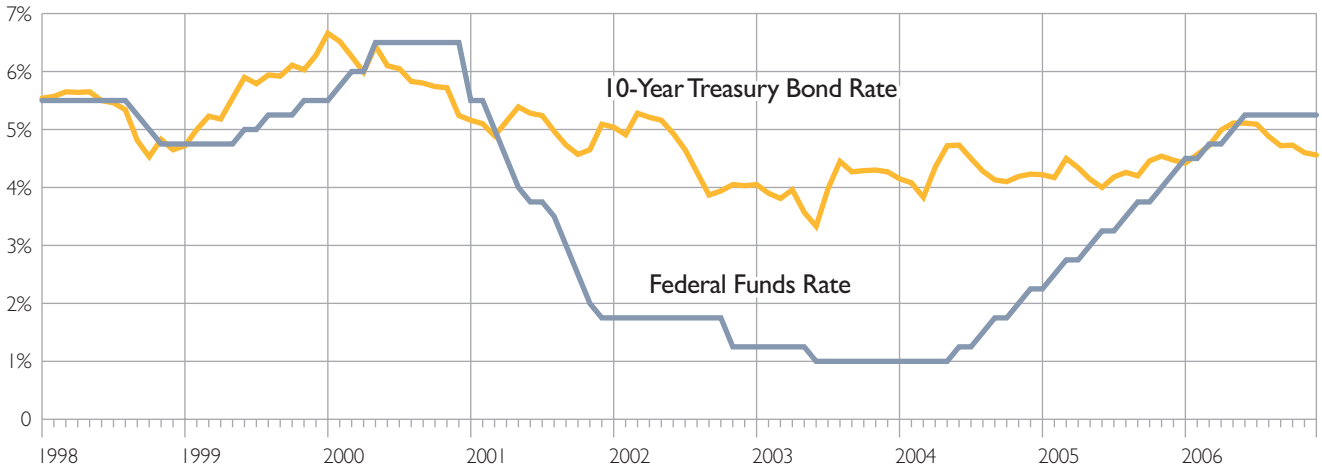
The disconnection between monetary policy and asset price bubbles in this case seems even more pronounced because the assets at the center of the storm were residential and commercial real estate—assets involving very long financing periods. Shorter-term mortgages were popular in this period, whether five-year adjustable rate mortgages or sub-prime mortgages with two-year or three-year teaser rates. Yet even in 2006, long-term, fixed-rate

25. *Ibid.*, p. 5.

26. Alan Greenspan, testimony before the Committee on Banking, Housing, and Urban Affairs, U.S. Senate, February 16, 2005, at *http://www.federalreserve.gov/Boarddocs/hh/2005/february/testimony.htm* (October 7, 2009).

The Greenspan Conundrum

The Federal Reserve reduced the federal funds rate in early 2001 and raised the rate again beginning in 2004, yet long-term interest rates barely moved.



Source: Board of Governors of the Federal Reserve System, Federal Reserve Statistical Release H.15: Selected Interest Rates, Historical Data, at *http://www.federalreserve.gov/Releases/H15/data.htm* (October 16, 2009).

Chart 4 • B 2331 heritage.org

mortgages accounted for 40 percent of the loan volume by amount.[27]

In conclusion, it appears that:

1. The Federal Reserve adopted a materially overly accommodative monetary policy over an extended period leading up to the financial markets collapse.
2. Certain other central banks followed a similarly overly accommodative policy to one extent or another, but many did not. This raises doubts as to whether a sufficient global pattern of excessive monetary accommodation existed to qualify as the sole, essential cause of the *global* asset price bubbles.
3. The magnitude of the Federal Reserves' excessive accommodation does not seem to have been adequate, even given its duration, to have distorted asset prices to the extent observed, especially given the Greenspan conundrum.

The Global Savings Glut: Alternative Cause or Accomplice to the Fed

Frothy asset prices and historically excessive leverage are sure signs of fundamental distortions in global credit markets. Monetary policy was at least a major contributing factor to these distortions, but an alternative explanation is that a steady, extraordinary surge in global savings from a variety of sources exceeded what the global economy normally could absorb in new investment. Analyzing such a surge becomes at first a simple matter of supply and demand curves in which the supply curve shifts outward, driving down the price, in this case, interest rates. As Richard Clarida explained at the time, "excess global saving is crowding in U.S. investments, driving down U.S. interest rates and risk premiums."[28]

Throughout the middle of the 2000s, commentators noted that risk seemed to be systematically

27. See Federal Housing Finance Agency, Market Data: Single-Family Mortgage Originations, 1990–2009 Q1, Table 2, at *http://www.fhfa.gov/webfiles/14598/SFMOrig1990to2009Q1.xls* (October 7, 2009).

underpriced as reflected in unusually low longer-term interest rates. For example, from 1996 through 2001, interest rates on 10-year AAA corporate bonds averaged 6.6 percent, while the average rate on those securities was just 5.2 percent from 2002 to 2007. Interest rates on AA and A-rated corporate bonds were similarly oddly low.

This downward shift in the interest rate structure could be attributed to a decline in inflation expectations, but this seems unlikely because the average annual rate of inflation rose from 1.8 percent to 2.4 percent during this period.[29] Of course, current inflation rates are imperfect measures of future inflation expectations. However, it seems unlikely that the market would have expected significantly lower future inflation after inflation had risen. It seems much more likely that some other force was at work, such as the outward movement of the global savings supply curve.

"Looking back, the main factor that I would identify as underlying the turmoil is the broad-based under-appreciation of risk."

In conjunction with the possible excess of global savings, financial markets underwent a rapid transformation brought on by rapid innovation in financial practices, especially the securitization of assets and the spreading of risk. Jean-Claude Trichet, President of the European Central Bank, expressed this simply and plainly in January 2009:

> Looking back, the main factor that I would identify as underlying the turmoil is the broad-based under-appreciation of risk. This under-appreciation of risk has been observed across financial institutions, across markets and across economies.[30]

President Trichet went on to say:

> Against this apparently favourable economic background [in 2006], innovation was rapidly taking place in financial markets. This was perceived by most observers as a positive development, on balance, because it enabled a better and wider distribution of risk. In fact, the diversification of risk appeared to be beneficial not just for the financial sector's stability, but also for the real economy, since companies were able to more efficiently spread the risks they were bearing. This perception is likely to have encouraged risk-taking not only inside but also outside the financial sector. However, as the turmoil has since shown, there was a generalised tendency to overestimate the true degree of risk spreading and diversification, especially in credit markets.[31]

Financial innovation increased the ability of market participants to ferret out new investment opportunities, but it also allowed them to more intensively use the available financial resources. The raw material of a possible excess of global savings combined with rapid and poorly understood financial market innovation could make a dangerous economic mixture.

The Evidence of a Global Savings Glut

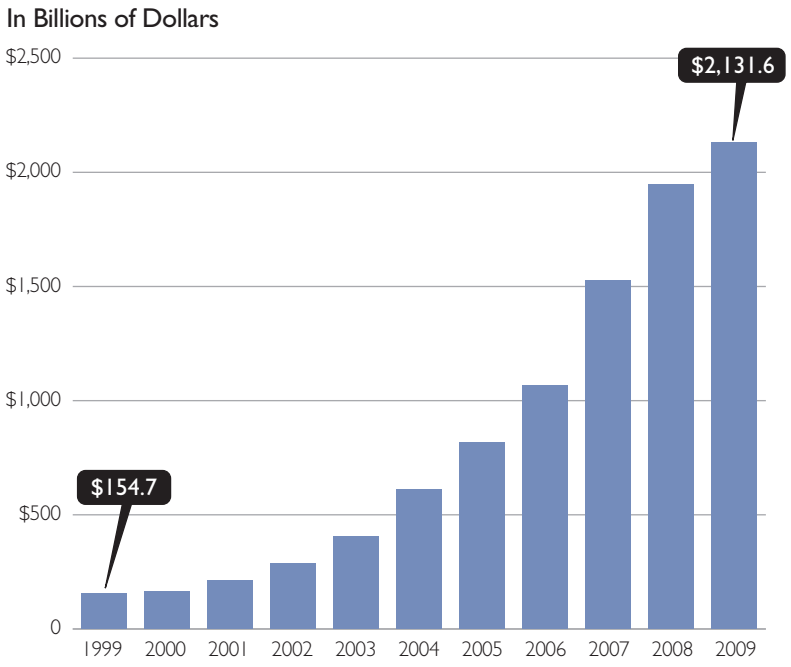
A complication in the global savings glut explanation is that the glut appears to have had a variety of sources, but particularly China's trade surpluses, oil exporters' riches, and U.S. corporate profits.

China's Trade Surpluses. One commonly mentioned source of the global savings glut is the massive trade surpluses run by China, which were accompanied by massive accumulations of foreign currency reserves. From 1999 to early 2009, China's foreign exchange reserves rose from $155 billion to over $2 trillion.[32] These reserves, largely denomi-

28. See Richard H. Clarida, "Petrodollars, the Savings Bust, and the U.S. Current Account Deficit," PIMCO *Global Perspectives*, March 2007, at *http://www.pimco.com/LeftNav/Global+Markets/Global+Perspectives/2007/Global+Perspectives+March+2007.htm* (October 7, 2009).
29. The measure of inflation is derived here from the personal consumption expenditure deflator.
30. Jean-Claude Trichet, "(Under-)Pricing of Risks in the Financial Sector," speech at the Coface Country Risk Conference 2009, Paris, January 19, 2009, at *http://www.ecb.int/press/key/date/2009/html/sp090119.en.html* (October 7, 2009).
31. *Ibid.*

China's Foreign Exchange Reserves

China's foreign exchange reserves soared, contributing significantly to global savings.



Source: People's Bank of China, "Gold & Foreign Exchange Reserves," 1999–2009, at *http://www.pbc.gov.cn/english/diaochatongji/tongjishuju* (October 14, 2009).

Chart 5 • B 2331 heritage.org

nated in dollars, were then recycled through global capital markets. (See Chart 5.)

Oil Exporters' Riches. Another important source was the dramatic increase in oil prices, which provided oil-exporting countries with windfall earnings of tens of billions of dollars for which they had no immediate application. They responded by plowing their new profits into relatively liquid investments through the global credit markets. From 1995 to 1999, OPEC's net oil revenues averaged $130 billion annually. From 2001 to 2008, these revenues averaged $445 billion, for a cumulative total of excess earnings of about $2.5 trillion—more than matching the rise in China's reserves.[33]

U.S. Corporate Profits. A third, often-neglected source of the global savings glut was the run up in U.S. corporate profits. As often lamented at the time, the recovery that began toward the end of 2001 was largely a "jobless recovery" until the economy finally accelerated in the summer of 2003, spurred by the 2003 tax cuts. In this period, the economy grew because businesses and workers achieved remarkable improvements in labor productivity. However, the economy was not growing rapidly enough to absorb this labor productivity growth and add additional workers. Not until the first quarter of 2005 did employment finally surpass its previous peak.

Once economic growth is strong enough to begin tightening labor markets, workers can capture the value of their productivity gains in higher wages, salaries, and benefits. However, until labor markets tighten, labor productivity gains mean higher business profits. From 1995 through 2000, U.S. corporate net cash flow averaged a healthy $809 billion annually.[34] From 2001 through 2008, U.S. corporate profits averaged a remarkable $1.2 trillion, a cumulative increase of almost $2.9 trillion above the previous norm.

Lesser factors undoubtedly contributed to the global savings glut. Of course, savings may have been persistently and materially below normal levels in some areas. The point is that massive and

32. See People's Bank of China, "Statistics," at *http://www.pbc.gov.cn/english/diaochatongji/tongjishuju* (October 7, 2009).
33. See U.S. Energy Information Agency, "OPEC Net Oil Export Revenues," at *http://www.eia.doe.gov/emeu/cabs/OPEC_Revenues/images/nominal.csv* (October 7, 2009).
34. Corporate net cash flow as defined in the National Income and Product Accounts is equal to corporate profits after tax and after capital consumption adjustments. See news release, "Gross Domestic Product," Table 11.

The First Modern Global Savings Glut

The recent buildup of oil exporters' riches harkens back to a strikingly similar episode in the mid 1970s. OPEC raised oil prices from $3.50 to $10 per barrel in January 1974 to $32.50 by the end of the decade. These price hikes rocked the global economy, while the resulting OPEC riches spurred an explosion in what became known as the Eurodollar markets—credit markets operating in dollars even though the depositors, financial institutions, and borrowers were rarely U.S. citizens. While not referred to as such, this was the first modern global savings glut.

The parallels continue in a striking fashion. As the Eurodollar market expanded rapidly, much of the lending went to less-developed countries (LDCs), now typically called emerging market economies, which needed external financing to grow rapidly. Thus, poor countries across the globe took on debt and then more debt, and then even more debt to refinance their previous debt.

Throughout this, lenders consoled themselves with the cleverness of their financial engineering, the massive upfront fees that they were earning, and the mantra that countries do not go bankrupt. Debtor countries always have assets to sell and tax revenues to collect. Thus, the risk associated with massive lending to poor countries was believed quite small. This mantra closely parallels the modern, now equally criticized mantra in the U.S. housing markets that home prices only rise and the mantra in global capital markets that risk can be "diversified away."

The Eurodollar debt party ended in August 1982 when Mexico was unable to service its $80 billion mostly dollar-denominated debt obligations, which were largely held by U.S. commercial banks. This signaled the beginning of the LDC debt crisis.[1] In total, LDCs owed some $235 billion (about $465 billion in 2009 dollars). In another interesting parallel, at the time of the LDC debt crisis, four Latin American countries owed about $37 billion to the eight largest U.S. banks, an amount equal to 147 percent of their capital and reserves.

1. See Federal Deposit Insurance Corporation, Division of Research and Statistics, *History of the Eighties—Lessons for the Future*, Vol. 1, *An Examination of the Banking Crises of the 1980s and Early 1990s* (Washington, D.C.: Deposit Insurance Corporation, 1997), pp 191–210, at *http://www.fdic.gov/bank/historical/history/191_210.pdf* (October 7, 2009).

extraordinary sources of savings were circulated through credit markets into asset markets. This could have been sufficient to drive down the price of risk materially, distorting financial arrangements, stoking speculative fires, and distorting the pattern of real investment.

Criticisms of the Global Savings Glut Theory

Few voices appear to contest the general validity of the global savings glut hypothesis. Many have remarked on its existence, including Alan Greenspan during his tenure as Chairman of the Federal Reserve Board,[35] and many commentators, such as Paul Krugman, have identified the savings glut as the primary causal force leading up to the financial crisis.[36]

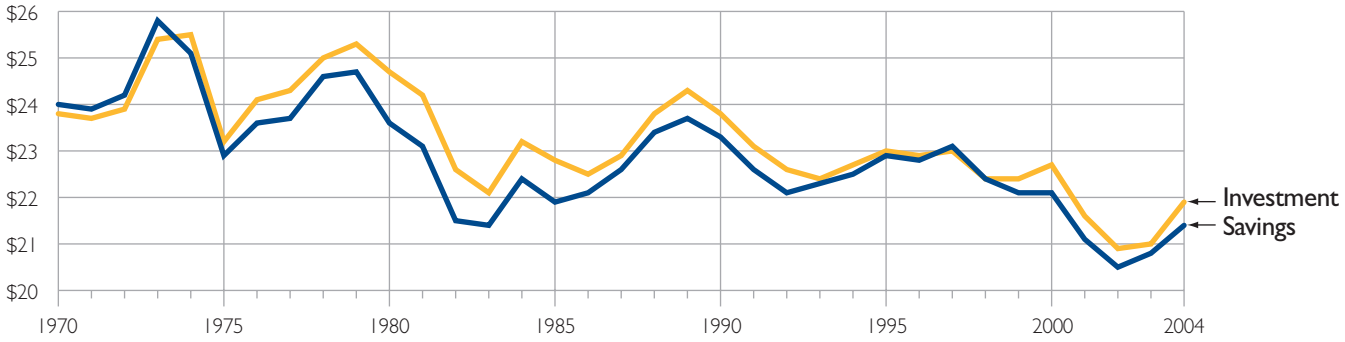
One argument against the global savings glut theory was presented as a chart in the International Monetary Fund's *World Economic Outlook,* September 2005. (See Chart 6.) The chart shows global savings on a steady, downward trend beginning in the 1970s, followed by a modest uptick through 2004.

35. See Alan Greenspan, testimony before the Committee on Financial Services, U.S. House of Representatives, July 20, 2005, at *http://www.federalreserve.gov/boarddocs/hh/2005/july/testimony.htm* (October 7, 2009).
36. See Paul Krugman, "Revenge of the Glut," *The New York Times*, March 1, 2009, at *http://www.nytimes.com/2009/03/02/opinion/02krugman.html* (October 7, 2009).

After Slow Decline, Savings Have Increased Slightly

Global savings and investment have trended downward since the 1970s, but appeared to reverse notably beginning in 2002.

Global Savings and Investment, in Trillions of Dollars



Source: International Monetary Fund, *World Economic Outlook*, September 2005, data for Chart 2.1, at *http://www.imf.org/external/pubs/ft/weo/2005/02/chp2data/fig2_1.csv* (October 14, 2009).

Chart 6 • B 2331 heritage.org

The argument is that the modest uptick from a downward trend is too minor to constitute a major force or material savings glut.

However, the operational definition of a global savings glut is not a high level of savings, but a level of savings that is persistently higher than the global economy would normally absorb. The level of global savings had been on a persistent downward trend, declining to just over $20 trillion in 2001. This is the condition to which credit markets were accustomed, and if the trend had continued, global savings would likely have declined another $2 trillion to $18 trillion by 2006 or 2007.

Instead, the level of savings reversed course, increasing significantly to $21 trillion by 2004 and likely increasing to $23 trillion or more by 2007. Thus, the shift away from the trend meant perhaps an extra $5 trillion in global savings by 2007, precisely the pattern of a global savings glut as credit markets were forced to adjust to significantly higher levels of flowing credit. (See Chart 7.)

Evil Savings? At least one substantive oddity in the global savings glut narrative remains. Savings is supposed to be a good thing. Even a surge in savings leads to investment, which leads to higher productivity, higher wages, and more wealth. If the world was suddenly awash in additional savings and it was productively invested, how does a global savings glut lead to trouble? The answer is in the presumption that savings finds its way predominantly into *productive* investment. If markets misallocated trillions of dollars in savings for some reason, then a severe downturn would be inevitable. Such a massive misallocation of investment is precisely what appears to have occurred.

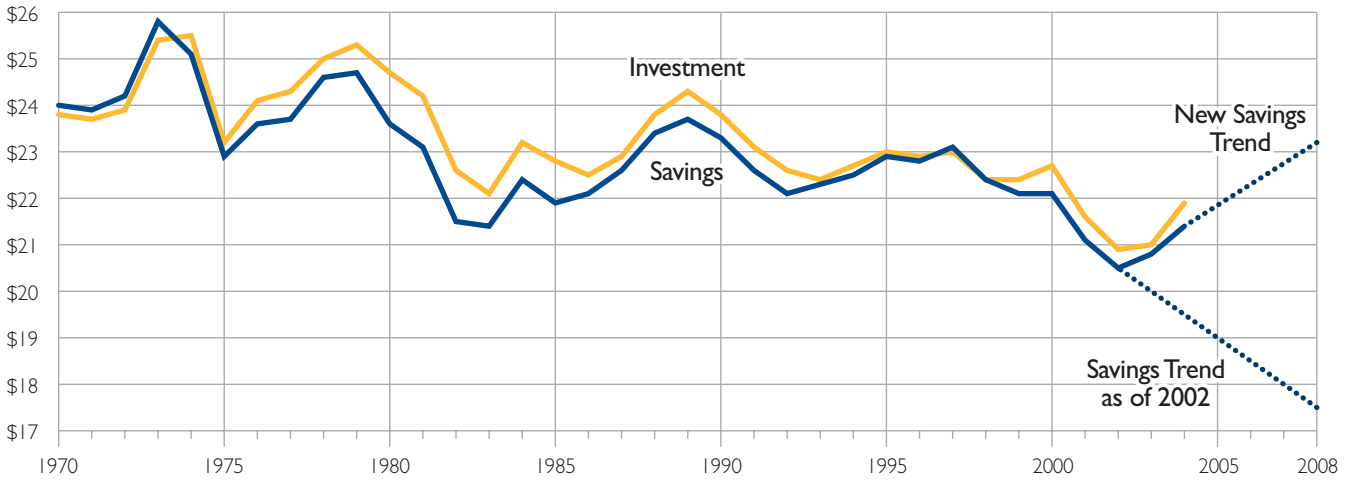
The Misallocation Multipliers: Foolishness, Innovation, and Hubris. Financial markets are constantly seeking to innovate, to find new ways of efficiently connecting lenders to borrowers and new ways to shift sources of risk from those who face it but do not want it, to those who are willing to bear more risk to increase their own profits. Recent years have seen an explosion of financial innovation including huge increases in the securitization of mortgages and other types of loans, the repackaging of those securities into different tranches by perceived levels of risk, credit-default swaps, and so forth. To some extent, this innovation may have been in response to the rapid increase in the sources of market liquidity. Similarly, innovation may have facilitated the rapid allocation of liquidity.

Rapid innovation combined with the broad application of these new financial instruments and approaches meant that financial firms and markets

New Trend Shows Increase in Savings

If the downward trend in global savings had continued in 2002, total global savings would have been about $17.5 trillion in 2008. Instead, savings rebounded in 2003, creating a new trend that would reflect $23.2 trillion in savings in 2008.

Global Savings and Investment, in Trillions of Dollars



Sources: International Monetary Fund, *World Economic Outlook*, September 2005, data for Chart 2.1, at *http://www.imf.org/external/pubs/ft/weo/2005/02/chp2data/fig2_1.csv* (October 14, 2009), and author's calculations.

Chart 7 • B 2331 heritage.org

were themselves rapidly evolving in ways that they did not always fully appreciate. Sometimes knowingly and sometimes with little understanding of the risks involved, the management of major financial firms bet the survival of their firms in these new markets.

Rapid innovation combined with the broad application of these new financial instruments and approaches meant that financial firms and markets were themselves rapidly evolving in ways that they did not always fully appreciate.

When the party ended, many storied financial firms in the U.S. and Europe were destroyed, including mega-insurer AIG, investment houses Bear Stearns and Lehman Brothers, and others. Merrill Lynch was forced into a shotgun marriage with Bank of America, and Goldman Sachs was forced to become a traditional bank holding company subject to regular federal supervision.

Underlying all of these transactions, complexities, risks, and profits was a widespread belief that Wall Street wizards had slain the systemic risk dragon. They believed that they had found ways to spread risk so widely that they had made individual sources of risk almost irrelevant. They had found fantastic new ways to identify and protect against risk—or profit by it—employing complex mathematical models and vast oceans of data. They were right for a long time, and then they were wrong.

Wall Street's financial engineers were not the only participants engaged in fantasy. Residential real estate markets in the United States, Spain, the United Kingdom, and other countries were especially susceptible. Buyers and lenders convinced themselves that prices could only go up. Even sophisticated credit rating agencies adopted this assumption in their mathematical models. Rising prices are a key economic signal for resources to flow. And flow they did, as much of the global savings glut found employment in the financing of new homes.

Global excess savings combined with excessive money growth contributed to an excessive buildup in real estate investment and prices. However, sustaining the rise to catastrophic levels was the simple, flawed, fundamental assumption that real estate values would inevitability rise.

Conclusion

The Great Global Contagion and Recession had many causes, but two stand out as essential and sufficient. First, the global savings glut was and is real. It was an essential cause leading to an artificially depressed price of risk, which led to asset price bubbles and investment misallocations. Second, excessive monetary accommodation by the Federal Reserve and some other central banks around the world powerfully augmented and enhanced the effects of the global savings glut.

The global savings glut and the excessive monetary accommodation are not alternative explanations, but rather complementary, mutually reinforcing forces that distorted global credit markets. The consequences of these forces were then dramatically enhanced by the rapid pace of financial innovation during this period. These consequences were further reinforced by the breathtaking arrogance of financial market participants and the widespread willingness of market participants to believe that the usual guides to sound finance and investment had become old-fashioned. It was also facilitated by a succession of policy failings, most importantly the failure of the United States and Europe to modernize their financial regulatory structures to pace developments in financial markets.

—J. D. Foster, Ph.D., is Norman B. Ture Senior Fellow in the Economics of Fiscal Policy in the Thomas A. Roe Institute for Economic Policy Studies at The Heritage Foundation. *The author thanks Dr. Michael J. Boskin of Stanford University and Dr. John B. Taylor of the Hoover Institution and Stanford University for their helpful comments and suggestions. Any errors that remain are the author's responsibility.*