

# Background

No. 2371  
February 22, 2010



Published by The Heritage Foundation

## Is the Inflation Threat Real? Is It Imminent?

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**Abstract:** *The Federal Reserve's actions to stabilize financial markets and the U.S. economy during the recent credit crisis created a mountain of excess reserves owned by banks and held at the Fed. If released into the economy too quickly, these excess reserves would trigger a burst of inflation forcing the Fed to raise the Fed funds rate quickly and likely triggering yet another recession. How well the Fed responds to this inflation threat by managing the excess reserves will heavily influence the near-term course of the economy. The Fed appears to have the necessary tools, especially its newly granted ability to pay interest on excess reserves. The greater uncertainty is whether the Fed will use those tools wisely.*

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The Federal Reserve was tardy in recognizing the magnitude of the threat during the recent financial crisis, but once engaged the Fed responded in force. Its unprecedented, innovative, even stunning interventions in the market and with individual firms dramatically expanded the scope and extent of its actions, moving well beyond any semblance of traditional central banking as it sought to calm the waters. Now, the Fed needs to be equally aggressive in executing an exit strategy, ending its emergency programs, unwinding its entanglements, shedding massive amounts of new assets and liabilities from its balance sheet, and ultimately raising interest rates to normal levels. Successful management of this exit strategy is paramount. How well the Fed executes this exit strategy will determine much about the near-

### Talking Points

- The Federal Reserve must effect a well-coordinated exit strategy from the consequences of its extraordinary actions in the recent financial crisis.
- A key element of this exit strategy will be managing the trillion dollar mountain of excess reserves banks currently hold at the Fed.
- If released unchecked into financial markets, these excess reserves would trigger a rapid acceleration of inflation, compelling the Fed to react by raising short-term interest rates to cut off the credit creation process, likely triggering another recession.
- The Fed has new tools, especially the ability to pay interest on excess reserves, to help it manage the inflation threat implicit in these excess reserves.
- The outstanding question is less whether the Fed has the tools to contain inflation, but whether it will use those tools wisely.

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This paper, in its entirety, can be found at:  
[www.heritage.org/Research/Economy/bg2371.cfm](http://www.heritage.org/Research/Economy/bg2371.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](http://heritage.org)

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term course of the economy, especially whether inflation becomes a serious new threat.

In its role as lender of last resort, the Fed injected enormous liquidity into the credit system. These actions produced a mountain of bank reserves held at the Fed, which need to be contained and whittled down before they flow

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***The Fed needs to be as swift and decisive in preventing inflation as it ultimately was in responding to the recent financial crisis.***

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unchecked as high-powered money into credit markets. These reserves and the uncertainties that surround them constitute the immediate potential for rapid, resurgent inflation. As James Bullard, president of the St. Louis Federal Reserve Bank, declared, uncertainty about inflation “is as high as it has ever been since 1980.”<sup>1</sup> For their part, remarks by senior Fed officials indicate that they are aware of the nascent inflation threat and the risks to the economy. They believe the Fed will use powerful new tools and develop additional tools to prevent inflation from rising excessively, i.e., beyond a target of about 2 percent annually.<sup>2</sup> Foremost among these tools is the Fed’s newly granted authority to pay interest on excess reserves that banks hold at the Fed. This simple tool appears to give the Fed a powerful new influence over banks’ decisions regarding their reserves.

However, monetary tools are only as good as those who wield them are wise, and there are

grounds for real concern about the Fed’s judgment.<sup>3</sup> The Fed appears to be relying on persistent and profound weaknesses in the economy to dampen inflationary pressures, allowing monetary policy to be more accommodative while credit markets heal. However, whatever influence that high unemployment exerts in restraining inflationary pressures, that influence will surely wane over time. To prevent a resurgence of inflation, the Fed must preemptively move toward a more neutral policy, which likely means moving sooner than it would prefer and sooner than current Fed comments imply. The Fed needs to be as swift and decisive in preventing inflation as it ultimately was in responding to the recent financial crisis.

### **Federal Reserve Actions to Stem the Storm**

The consensus view is that the Fed pursued an overly expansionary monetary policy for an extended period under Chairman Alan Greenspan following the 2000 recession and that this policy played a crucial role in creating the conditions for the recent financial contagion and recession. This view is advanced most forcefully by John Taylor, former Under Secretary of the Treasury for International Affairs, among others, although current Fed Chairman Ben Bernanke has sought to rebut these arguments to an extent.<sup>4</sup> The Fed’s actions also likely contributed to pressures that caused inflation to rise from an average of 2.1 percent from 2000 through 2004 to an average of more than 3 percent by 2007, reaching a high of 4.3 percent in the third quarter of 2008.<sup>5</sup>

1. Krishna Guha, “Uncertainty ‘High’ over Inflation Outlook,” *Financial Times*, November 9, 2009, at <http://www.ft.com/cms/s/0/8fad3518-ccaa-11de-8e30-00144feabdc0.html> (February 9, 2010).
2. Donald L. Kohn, “Central Bank Exit Policies,” speech at Shadow Open Market Committee Meeting, Cato Institute, Washington, D.C., September 30, 2009, at <http://www.federalreserve.gov/newsevents/speech/kohn20090930a.htm> (February 9, 2010).
3. See J. D. Foster, “Will the Fed Nix Inflation in Time?” Heritage Foundation *Background*, forthcoming.
4. This debate is captured in John B. Taylor, *Getting off Track: How Government Actions and Interventions Caused, Prolonged, and Worsened the Financial Crisis* (Stanford, Calif.: Hoover Institution Press, 2009); Ben S. Bernanke, “Monetary Policy and the House Bubble,” speech at the Annual Meeting of the American Economic Association, Atlanta, Georgia, January 3, 2010, at <http://www.federalreserve.gov/newsevents/speech/bernanke20100103a.htm> (February 9, 2010); and John B. Taylor, “The Fed and the Crisis: A Response to Ben Bernanke,” *The Wall Street Journal*, January 10, 2010, at <http://online.wsj.com/article/SB10001424052748703481004574646100272016422.html> (February 9, 2010). For a broader, earlier discussion, see J. D. Foster, “Understanding the Great Global Contagion and Recession,” Heritage Foundation *Background* No. 2331, October 22, 2009, at <http://www.heritage.org/research/economy/bg2331.cfm>.

Despite the Fed's apparent role leading up to the crisis, it was nevertheless inevitable that the Fed should play the pivotal role in shepherding financial markets and the broader economy through the crisis, beginning in the summer of 2007, by slashing the Federal funds rate. The Fed cut the funds rate from 5.25 percent in July to 2 percent a year later and to near zero by the end of 2008. Although this policy was uncomfortably reminiscent of Greenspan's slashing of the funds rate to 1 percent at the start of the decade, in the face of the unfolding contagion the Fed's approach had become "whatever it takes."<sup>6</sup>

The Fed's first truly extraordinary actions involved the managed implosion and sale of the investment bank Bear Stearns to JPMorgan Chase, another investment bank, in March 2008. As part of the transaction, the Fed effectively acquired \$30 billion of dodgy, hard-to-value, mostly mortgage-related assets from Bear Stearns. By law, the Fed is only supposed to acquire high-quality assets, but sidestepped this requirement by making a \$30 billion nonrecourse loan to a special corporation, which then used the funds to buy the assets.<sup>7</sup> Thus, in a stark twofold break with tradition, the Fed (1) made a loan to a noncommercial bank (2) relating to the acquisition of assets of uncertain and markedly dubious quality.

In the ensuing months, especially in September 2008, major financial institutions fell seriatim. The spectacle taught observers many important lessons, but perhaps above all it taught that confidence and trust play central roles as the glue holding the financial system together. Individuals need confi-

dence that the financial system is fundamentally sound before they willingly place their funds at its disposal. Financial institutions need trust in the ethical and financial soundness of one another to engage in the multitude of transactions that are the bread and butter of financial markets. Unlike most factors in economics and finance, confidence and trust can evaporate almost overnight, and when they do, the system unravels quickly.

The Fed was forced to respond just as quickly to get in front of the contagion wave to prevent the wave from engulfing and destroying otherwise solvent financial firms. The Fed's response largely involved creating a slew of new programs to engage with a variety of markets, asset types, and firm types—an approach sometimes called "credit easing."<sup>8</sup> In the process, the Fed acquired enormous amounts of assets including mortgage-backed securities and direct loans to firms. The Fed has properly stated that its goal going forward is to "unwind" these positions as rapidly as market conditions permit. In many cases, this process will occur simply as the assets mature and the Fed recovers its investment.

A good example of such a new program is the Term Auction Facility, created in December 2007 to address disruptions in short-term funding markets tracing back to the subprime mortgage crisis. Under the program, the Fed auctions 28-day and 84-day collateralized loans to generally sound institutions.<sup>9</sup> By March 2008, the Fed had acquired \$468 billion in assets under this program. By late October 2009, that balance had shrunk to just over \$38 billion.<sup>10</sup>

5. Inflation is measured as the year-over-year change in the prices of personal consumption expenditures.

6. See David Wessel, *In Fed We Trust: Ben Bernanke's War on the Great Panic* (New York: Crown Business Publications, 2009).

7. A nonrecourse loan is a loan that is secured by collateral of some form. A defining feature of such loans is that the borrower is not personally liable, and in the event of default, the lender has no recourse to collect from the borrower.

8. See Ben S. Bernanke, "The Crisis and the Policy Response," speech delivered at the Stamp Lecture, London School of Economics, January 13, 2009. Credit easing is therefore distinct from monetary accommodation through a lower Fed funds rate and quantitative easing through asset purchases and the creation of bank reserves.

9. Board of Governors of the Federal Reserve System, "Term Auction Facility," updated February 9, 2010, at <http://www.federalreserve.gov/monetarypolicy/taf.htm> (February 9, 2010).

10. Federal Reserve, "Factors Supplying Reserve Balances: Historical Data," H.4.1, Table 6, at <http://www.federalreserve.gov/releases/h41/hist/h41hist6.pdf> (February 10, 2010).

A fundamental role of a central bank is to act as lender of last resort when solvent financial institutions are suddenly unable to meet client demands for redemptions or, more recently, when the failure of a major institution would pose a substantial risk to the overall financial system. The Fed's extraordinary actions during this period were undertaken largely in its role as lender of last resort.

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The most common strategy for a central bank in a crisis is to ensure that credit markets have sufficient liquidity. Liquidity in this case is analogous to the oil that lubricates the moving parts in a combustion engine. Credit in the economy goes well beyond consumers borrowing to buy cars and homes and running up credit card balances. Credit also involves businesses managing cash flow, financing goods and materials for use in production, and then financing inventory ready for sale. Credit also involves financial firms lending and borrowing from each other in billions of transactions annually. In the recent crisis, credit markets seized up in the sense that even perfectly sound financial institutions pulled back from the normal processes of extending very short-term credit to one another. Consequently, widespread liquidity shortages ensued. Through programs like the Term Auction Facility, the Fed attempted quickly to inject liquidity wherever and whenever these shortages appeared.

Along with these spot measures, the Fed also attempted to boost the overall level of systemic liquidity in the hope that a superfluity of credit generally would cover over many of the less obvi-

ous or less intensive shortfalls. This process began with reducing the Fed funds rate to near zero.

Raising and lowering the Fed funds rate is the primary tool of monetary policy. Trouble arises, however, when the funds rate approaches zero because it cannot go lower. Facing such a situation, the Fed turned to quantitative easing to relax monetary policy further.<sup>11</sup> Quantitative easing essentially refers to expanding the reserves or liquidity in the financial system directly by increasing the quantity of reserves rather than by lowering the price of reserves by cutting the funds rate.<sup>12</sup> Large increases in bank reserves and in securities held by the Fed are reflections of quantitative easing. The success of the Fed's extraordinary efforts to increase system liquidity is apparent from the mountain of excess reserves that the banking system now holds.

### **Excess Reserves and the Inflation Threat**

Banks are required to keep a certain amount of reserves at the Fed based on the amount of the banks' deposits. In 2007, for example, banks' required reserves against deposits averaged about \$41 billion. Traditionally, banks would keep a modest amount of additional, or "excess," reserves on deposit at the Fed to avoid penalties that arise if their total deposits fall below the required level. In 2007, excess reserves averaged about \$1.8 billion.

In the face of the crisis, all manner of financial institutions sought to maximize cash on hand. However, by hoarding cash balances, financial institutions exacerbated the credit crunch enveloping the financial system. The Fed sought to increase liquidity sufficiently so that institutions could obtain the necessary cash balances and, perhaps equally important, be confident that they could obtain more if necessary. It was hoped that institutions might then feel confident enough to partici-

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11. The mechanics of quantitative easing are simply that the Fed buys financial assets, such as government notes and corporate bonds, from a financial institution. In exchange, the Fed creates a deposit account on which the institution can draw, thereby literally creating money out of thin air.
  12. However, the Fed does not create income or real purchasing power, which requires some economic process involving labor and capital to generate something of value. The Fed creates (or destroys) the medium of exchange (money) with which individuals and businesses can purchase the goods and services that are produced. If the Fed produces more "money" without individuals and businesses generating a commensurate, independent increase in the quantity of goods and services produced, then the price level rises to restore balance.

pate more normally in financial markets by lending to one another. One manifestation of the Fed's efforts was the explosion of banks' excess reserves.

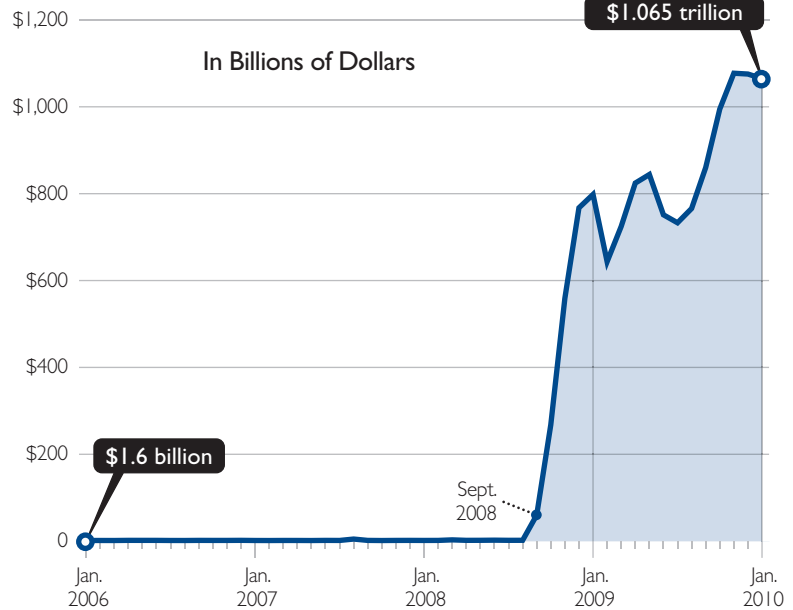
As Chart 1 demonstrates, system-wide excess reserves went from an average of less than \$2 billion to about \$60 billion in September 2008 as the financial contagion took hold, rising dramatically to almost \$1.065 trillion by the end of January 2010.<sup>13</sup> A key part of the Fed's exit strategy to avoid resurgent inflation while allowing the recovery to continue apace is containing this mountain of excess reserves and then reducing it back to normal levels.

The expansion in excess reserves demonstrates the lengths to which the Fed has gone to sustain financial markets. It also demonstrates the extraordinary latent pressures that could trigger resurgent inflation.

As is now understood, "inflation is always and everywhere a monetary phenomenon."<sup>14</sup> Inflation is the rise in the general level of prices of goods and services over time. For example, an increase in the price of oil is not by itself a reflection of inflation or a cause of inflation. Such an increase reflects inflation if it is accompanied by a similar rise in a wide range of prices. Nor does inflation necessarily mean that all prices are rising. Some may fall while others remain unchanged.<sup>15</sup>

Excess reserves held at the Fed represent potential expansion of the money supply. The relationship of excess reserves to inflation is analogous to

### Excess Reserves Held at the Fed



Source: Federal Reserve, "Aggregate Reserves of Depository Institutions and the Monetary Base," H.3, February 4, 2010, at <http://www.federalreserve.gov/releases/H3/Current/> (February 9, 2010).

Chart 1 • B 2371 heritage.org

the relationship in physics between potential energy and action. A ball held above the ground has potential energy that becomes active, or kinetic, when the ball is dropped. As long as excess reserves remain held at the Fed, they pose only the potential for money creation.

However, once a bank withdraws reserves from the Fed, they enter the credit creation process made possible by the fractional reserve banking system.<sup>16</sup> In practice, this means that a small amount of reserves eventually becomes a large amount of money.<sup>17</sup> For example, the narrowest measure of

13. Federal Reserve, "Aggregate Reserves of Depository Institutions and the Monetary Base," H.3, February 4, 2010, at <http://www.federalreserve.gov/releases/H3/Current/> (February 9, 2010).

14. Milton Friedman, *A Monetary History of the United States, 1867–1960* (Princeton, N.J.: Princeton University Press, 1971).

15. Inflation may similarly be defined by reference to the value of the currency used to purchase goods and services—hence, the common refrain that because of inflation "a dollar doesn't buy what it used to." By extension, inflation can also be defined by reference to the value of foreign currencies. For example, when the dollar declines relative to the euro, holders of dollars must use more of their holdings to acquire the same amount of foreign goods and services.

the money supply, the money base comprising currency plus commercial bank reserves held at the Fed, averaged about \$1 trillion in 2008. When categories such as checkable deposits, savings accounts, and money market funds are added, the measure of money quixotically called MZM averaged almost \$8.7 trillion in 2008.

The simple expression of inflation is “too much money chasing too few goods.” If \$1 trillion of excess reserves were released quickly into the financial system, the amount of credit in the economy would expand rapidly, eventually putting significant upward pressure on asset prices, but also on the prices of goods and services as the reserves became a multiple of that amount of money. Before long, inflation would increase and force a sharp, economically painful reaction as the Fed quickly raised the Fed funds rate, likely triggering yet another recession. Reducing the quantity of excess reserves either directly or by a controlled release into the financial system is therefore key to keeping inflation under control and the recovery on track.

### Tools to Control Excess Reserves

Helping to contain the excess reserves held at the Fed and thus the inflation threat facing the economy is an especially important tool Congress recently granted to the Fed. The Financial Services Regulatory Relief Act of 2006 gave the Fed the authority to pay interest on excess reserves, and it currently pays a minimal 0.25 percent. This sounds like a small, technical policy change, but the implications are enormous. Other central banks, such as the Bank of Canada and the Bank of Japan, have the ability to pay interest on excess reserves and see it as a powerful tool of monetary policy.

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For example, if a financial institution with excess reserves at the Fed considered withdrawing them to pursue lucrative lending opportunities, the Fed would need only, in theory, to raise the interest rate that it pays on reserves, and the institution would be content to forgo the lending and earn safe interest at the Fed. This is analogous to an individual with a checking account. If the checking account balance earns little or no interest, under normal circumstances an account holder with extra cash would quickly shift the cash to better opportunities, such as money market funds. However, if the bank can pay competitive interest on checking account deposits, more of the funds will be kept at the bank.

The Fed has two additional tools at its disposal to smooth the outflow of excess reserves and to control the money supply. The Fed has developed these new tools based on long-standing authorities specifically intended to strengthen its ability to modulate the flow of excess reserves into the credit system:

- **Reverse repurchase agreements (reverse repo)**, which allow the Fed to sell an asset and temporarily reduce excess reserves with an agreement to repurchase the asset at a later date.
- **Offer term deposits**, analogous to certificates of deposit, on which the Fed pays a slightly higher rate of interest for an agreement by the owner of the reserves to leave them at the Fed

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16. A bank will hold a fraction of its deposits as reserves and lend out the balance. When the borrower spends the money, the recipients eventually deposit the funds into other financial institutions, which, in turn, retain a portion as reserves and lend out the balance. This process continues, at each stage further expanding the money supply from the initial expansion of the money base. The process does not continue indefinitely, creating an unlimited amount of money, because a portion of each deposit is held as a reserve.
  17. The term “money” is somewhat flexible because different kinds of financial instruments have different degrees of moneyness, i.e., ability to be used in exchange for goods and services. For example, cash, coin, debit cards, and checking accounts have very high degrees of moneyness. Savings accounts are easily tapped for spending, but one must typically first transfer funds out of the account. Certificates of deposit have much less moneyness because of the penalties for early withdrawal, but they can still be readily tapped for cash if the need arises.

for a defined period, effectively and temporarily neutralizing the inflation potential of the reserves.

Managing the outflow of banks' excess reserves is important, but not a substitute for actions to return the level of excess reserves to normal. Excess reserves will decline in part as continued improvement in financial conditions leads to a dramatic reduction in the use of the Fed's special lending facilities. In addition, over time the various loans and debt securities held by the Fed will mature, automatically reducing excess reserves. Finally, the Fed can simply reverse the transactions producing the excess reserves by selling some of its recently acquired assets for cash. This is similar to classic federal open market operations used to maintain the Fed funds rate, except it would involve the sale of assets other than Treasury paper.

Under normal circumstances, the combination of asset sales, paying interest on excess reserves, and the other available tools should enable the Fed to manage the reduction of excess reserves without triggering renewed inflation, but there is cause for concern in the current situation. First, recent conditions are anything but normal as credit markets continue to struggle and new threats to the econ-

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***The sheer magnitude of the excess reserves, nearly \$1 trillion, suggests that the Fed's exit strategy will face unprecedented pressures.***

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omy and financial markets may be building.<sup>18</sup> Second, the sheer magnitude of the excess reserves, over \$1 trillion, suggests that the Fed's exit strategy will face unprecedented pressures. The theory should work, but all too often in recent years market realities have exposed shortcomings in financial theory. Third, even if the tools are fully adequate, will the Fed use its tools wisely to prevent inflation?

A forthcoming paper will discuss this last issue and an apparent flaw at the heart of the Fed's inflation analysis—the effect of persistent excess capacity on inflation pressures.<sup>19</sup>

### **Inflation Threat Is Real**

The Fed's actions in the recent credit crisis have led to the creation of a mountain of excess reserves held by banks at the Fed. If unleashed on the economy too rapidly, these excess reserves would almost certainly trigger an extended period of rapidly increasing prices. Fed officials have repeatedly expressed an awareness of the inflation threat and a determination to ward off higher inflation if needed.

An important new tool recently granted the Fed by Congress is the ability to pay interest on the mountain of new excess reserves. In theory, this new tool should be sufficient to enable the Fed to contain inflation, especially when used in concert with other reinforcing tools like raising the Fed funds rate. Therefore, the first source of risk is that theory may again fall short in practice, but no signs at this time indicate that the theory is invalid.

The remaining risk is that the Fed will misjudge the situation and wait too long to tighten monetary conditions. Withdrawing monetary accommodation to avoid inflation while allowing the recovery to proceed apace is always a difficult exercise and never greater than under the present circumstances.

As will be explained in a forthcoming paper, there are sound, substantive reasons for concern that the Fed will misjudge the situation for a long time.<sup>20</sup> A view that appears to be widely held inside and out of the Fed is that sustained economic weakness provides sustained resistance to inflationary pressures. Even granting that an underperforming economy and a high rate of unemployment provide a degree of insurance against inflation over a period of time, that period is not indefinite. As the United States learned pain-

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18. For example, see J. D. Foster, "Health Care Reform and the Threat to the Dollar," Heritage Foundation *WebMemo* No. 2674, November 2, 2009, at <http://www.heritage.org/Research/HealthCare/wm2674.cfm>, and "The Global Government Debt Bubble Threatens the Economy," Heritage Foundation *WebMemo* No. 2257, January 30, 2009, at <http://www.heritage.org/research/economy/wm2257.cfm>.

19. Foster, "Will the Fed Nix Inflation in Time?"

20. *Ibid.*

fully in the 1970s, if monetary accommodation is generous enough and long enough, inflation has little trouble igniting even with a high unemployment rate.

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