Questions about Recent Monetary Policy[1]

Presented at the Centennial Celebration of
Milton Friedman and the Power of Ideas
University of Chicago

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I am grateful for the opportunity to participate in this centennial celebration of Milton Friedman and the Power of Ideas. Thank you for inviting me.

I got to know Milton Friedman after he left the University of Chicago and joined Stanford's Hoover Institution. I learned a lot from him during those years especially about his approach to economic research and the rigorous and demanding way he combined theory and facts. But I also learned about policy. An example occurred when I took leave from Stanford to serve on President George H.W. Bush's Council of Economic Advisers. One day I was given the job of calling economists, including Milton, to get support for the president's "revenue enhancement" or tax increase proposal. Milton quickly realized why I was calling and before I even asked the question he simply said, "The answer is no!" adding "Washington is corrupting you, John. You better come back right away."

Lars Hansen, the moderator of this session on monetary policy and the macro economy, asks the following

> "Friedman advocated the use of a simple and transparent rule for the conduct of monetary policy in normal times. The conduct of monetary policy since the outset of the financial crisis has been arguably creative, but this outcome challenges policy transparency going forward. *How do you see Fed behavior at this juncture? To what extent has monetary policy alone run out of gas in nurturing a more healthy macroeconomic recovery?"*

To address these questions let me start by going back to the talk I gave at Milton Friedman's 90th birthday celebration here at the University of Chicago in November 2002 exactly ten years ago.[2] The main purpose of that talk was to demonstrate the power of Milton Friedman's ideas about monetary economics and policy. I showed how the performance of the American economy had improved greatly in the 1980s and 1990s compared to previous periods, especially the late 1960s and 1970s. The volatility of output had come down, the unemployment rate had come down, and the inflation rate had come down. I also showed how monetary policy

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[1] Written version of remarks presented at a panel on Monetary Policy and the Macro Economy chaired by Lars Hansen and also including Robert Lucas and Allan Meltzer.

[2] John B. Taylor, "A Half-Century of Changes in Monetary Policy," http://www.stanford.edu/~johntayl/Onlinepaperscombinedbyyear/2002/A_Half-Century_of_Changes_in_Monetary_Policy.pdf Remarks Delivered at the Conference in Honor of Milton Friedman, November 8, 2002

had become more rule-like—more predictable, less discretionary, more steadily focused on the goal of price stability in the 1980s and 1990s—along the lines that Milton Friedman long advocated.

In other words, consistent with Milton Friedman's ideas, as monetary policy had become more rule-like, the performance of the macro economy had improved greatly.

This historical narrative can be demonstrated empirically in many ways. I used some simple charts in the 2002 talk. The chart below, taken from the talk, shows how the inflation rate (measured by the four-quarter percentage change in the GDP deflator) came down sharply during the 1980s and 1990s.

Just as important, it also illustrates an important aspect of the shift in monetary policy. Note the line drawn at 4% inflation, and consider, as shown by the boxes in the chart, that the Fed's policy interest rate was much higher in 1989 than in 1968 even though the inflation rate and business cycle conditions were about the same. That larger response of the interest rate was a regular predictable characteristic of monetary policy in the 1980s and 1990s compared with the earlier period.

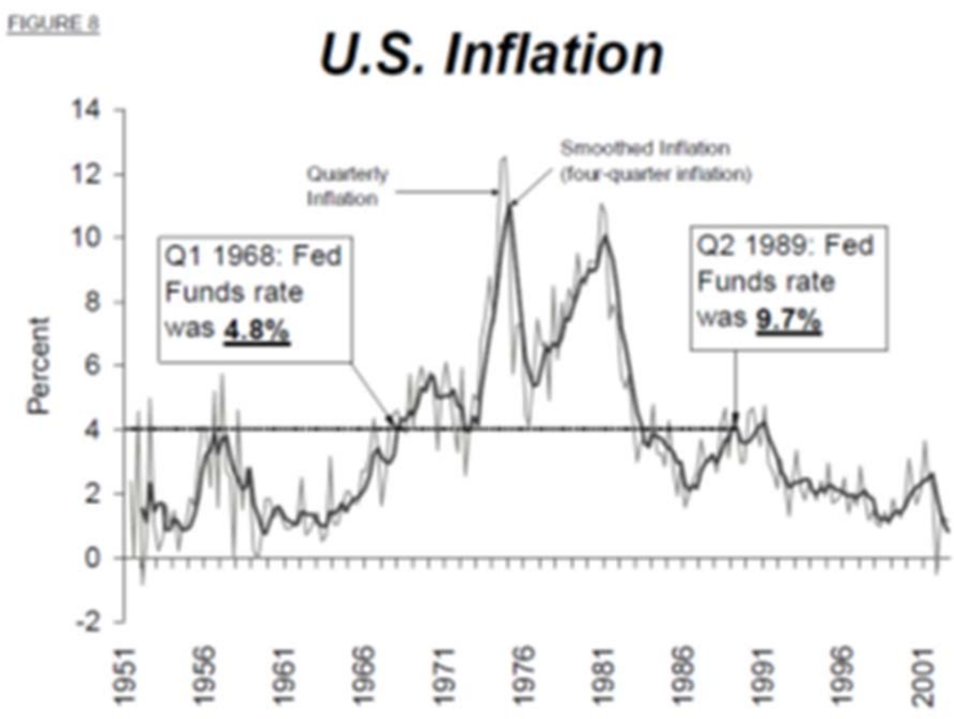


Chart from Milton Friedman's 90th Birthday Celebration, November 2002

The next chart (also from the 2002 talk) shows the reduction in the volatility of output in the 1980s and 1990s, which economists call the Great Moderation. If you look at the growth rate of real GDP rather than these output gaps, the reduction in volatility is even more dramatic.

FIGURE 12

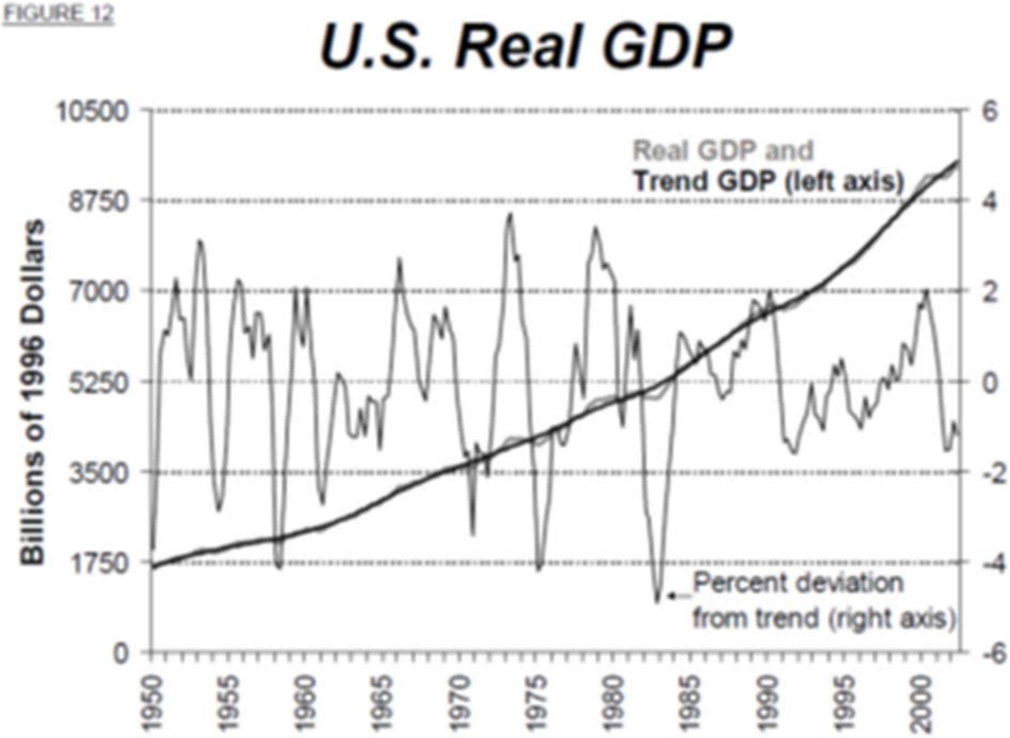
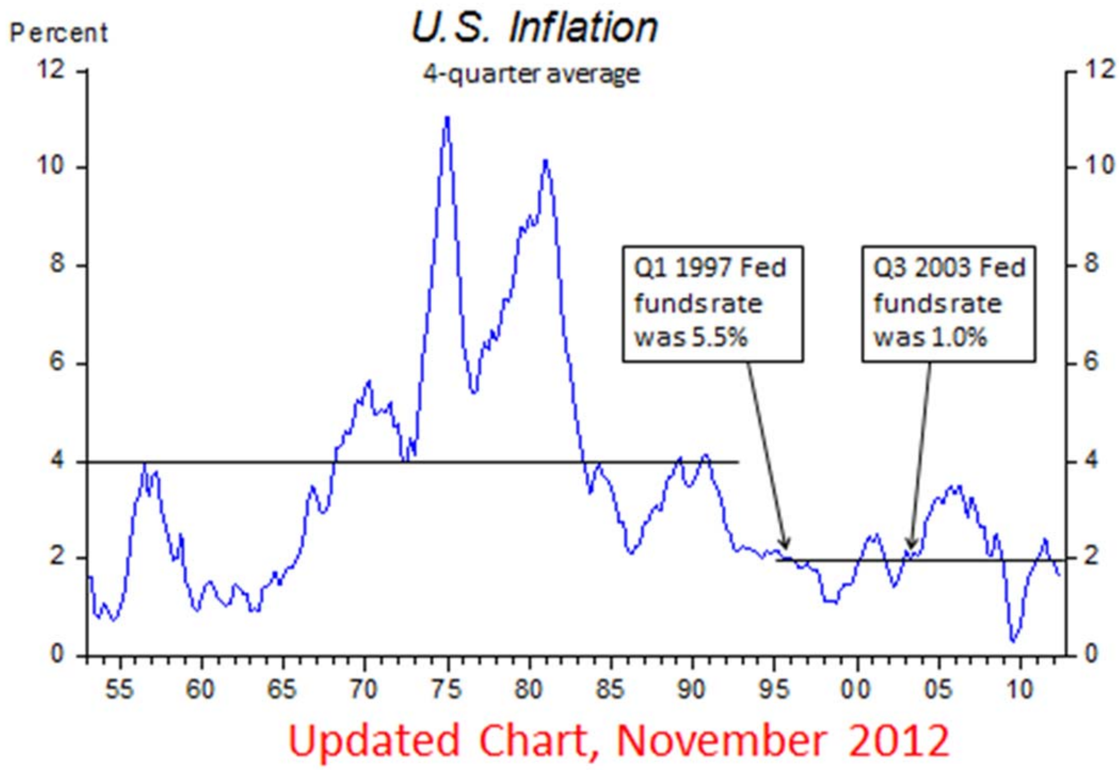


Chart from Milton Friedman's 90th Birthday Celebration, November 2002

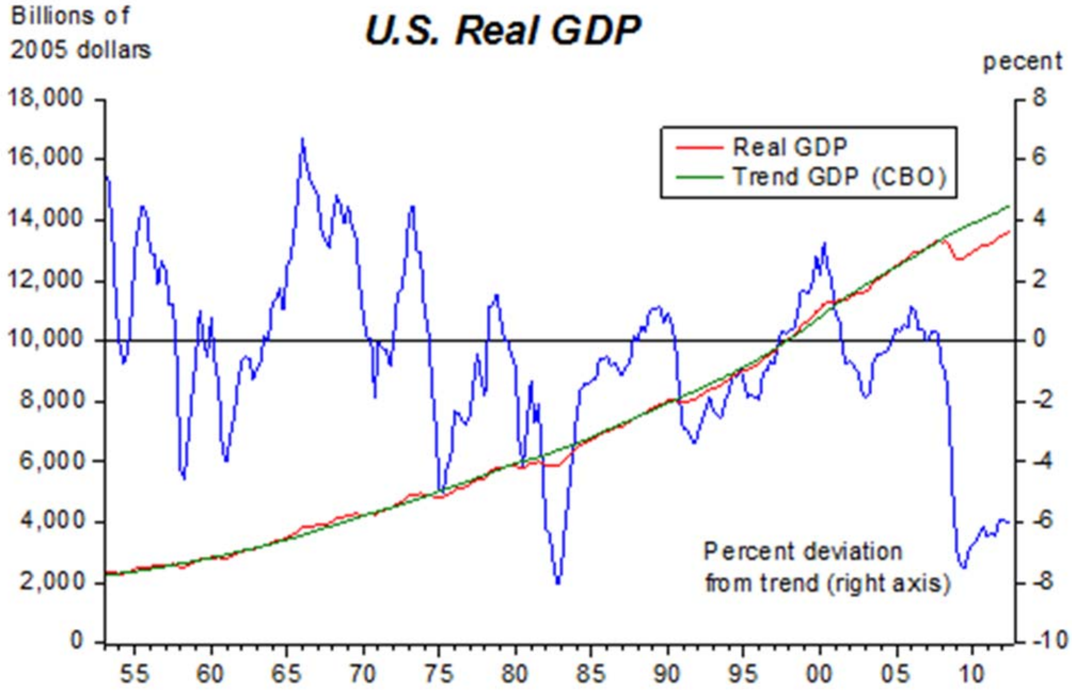
When you looked back from the vantage point of November 2002, you could see that for nearly a quarter century the Fed had largely refrained from engaging in the harmful discretionary short-term actions—go-stop changes in money growth or holding interest rates too low for two long—that had caused instability in the past. It was appropriate to cheer the Fed's record and to credit Friedman's ideas. Moreover, the good policy and good performance spread globally. Many other countries enjoyed steadier monetary policy and more stable economic growth.

But that steadier monetary policy and good economic performance did not last. Little did I know then that the Fed would do it again. It would go back to the types of discretionary actions it had used in the past.

The policy reversal began around 2003-2005. Again there are many ways to show this, but let me simply extend the charts from the 2002 celebration as in the next chart of the inflation rate. The chart illustrates an important aspect of the recent monetary policy reversal in the same way I illustrated the earlier shift. Note the additional line drawn at 2% inflation, and observe that the federal funds rate was much lower in 2003 (1.0%) than in 1997 (5.5%) even though the inflation rate and business cycle conditions were roughly the same in 2003 as in 1997. In other words the Fed deviated significantly from the type of policy that had worked well in the 1980s and 1990s. This was a change that characterized the whole 2003-2005 period, which some now call the "too low for too long" period.



As one might suspect, inflation then picked up though less as measured by the GDP deflator, shown here, than by housing prices. The low interest rate led many to take on extra risk in a search for yield. Eventually the Fed tightened, the Great Recession with the financial crisis started, and the Great Moderation was over. The next chart, which extends the GDP chart from 2002, shows the decline in output and the increase in output volatility as the economy went into a very deep recession and now a weak recovery.



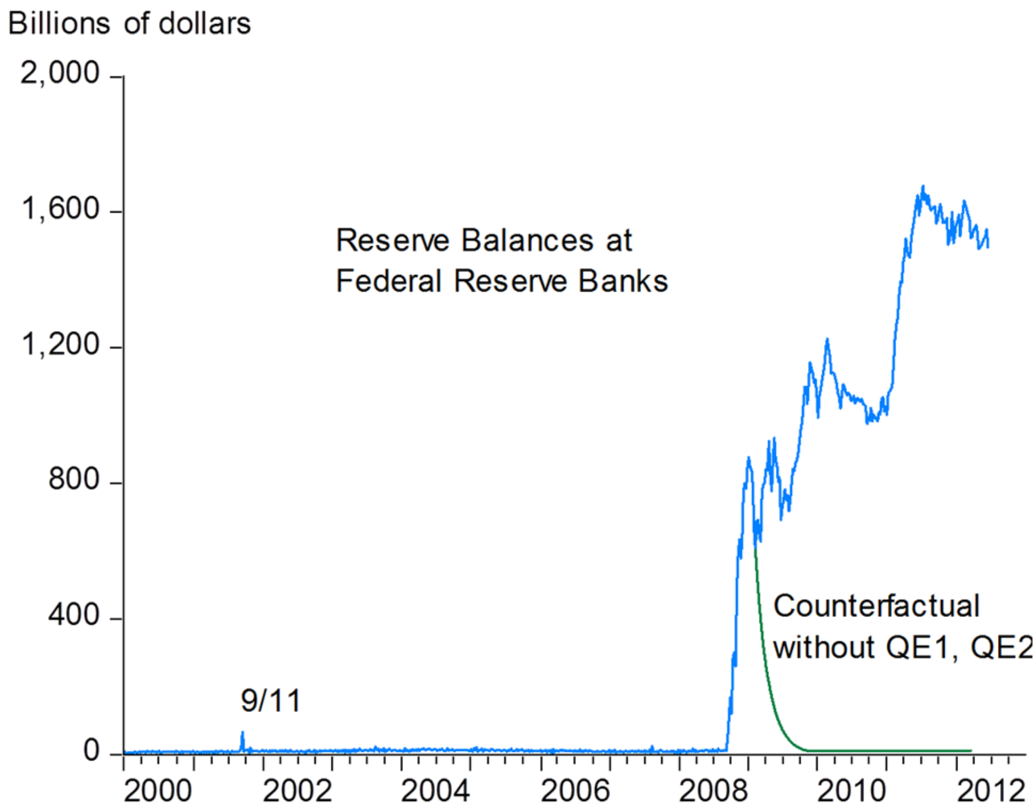
Updated Chart, November 2012

So, to answer the first question of Lars, I cannot be positive about the Fed's behavior during the period leading up to the crisis, in contrast to my very positive assessment of policy during 1980s and 1990s. The Fed's decision to hold interest rates unusually low represented a deviation from its rule-like behavior in those decades. Economic performance deteriorated—a result entirely consistent with Milton Friedman's ideas.

What about the Fed's behavior *during* the crisis? Once the panic took hold in late September 2008, the Fed's provision of liquidity—through existing and new facilities—helped stabilize markets, in my view, much as did the Fed's response to the market disruption following the September 11, 2001 terrorist attacks.

However, after these liquidity facilities were drawn down, the Fed did not return to more normal monetary policy. Instead, it began to expand its balance sheet and engage in unconventional large-scale asset purchases called quantitative easing (QE1 and QE2). It bought massive amounts of mortgage-backed securities (MBS) and long-term Treasuries in a discretionary way.

The following chart shows the impact of these securities purchases on reserve balances, or bank deposits at the Fed which were used to finance the purchases. It also shows what would have happened in the counterfactual history that QE1, QE2 and QE3 had not occurred. Reserve balances would then have wound down as in 9-11 2001, also shown in the chart.



There is a great deal of disagreement about the direct impact of these purchases on the economy. Research by Johannes Stroebel and me shows that the MBS purchase programs that were part of QE1 had little or no significant impact on mortgage rates.[3] Much of the research which shows a significant influence of quantitative easing actions on interest rates is based on announcement effects which are unreliable measures as John Cochrane and others have emphasized[4]. It remains to be seen whether the new MBS purchase program in QE3 will have a lasting impact.

In any case, there is no question that these unconventional actions have taken the Fed toward more discretion and less transparency. The Fed has moved well beyond its traditional areas, which has raised questions about its independence. The large increase in the Fed's balance

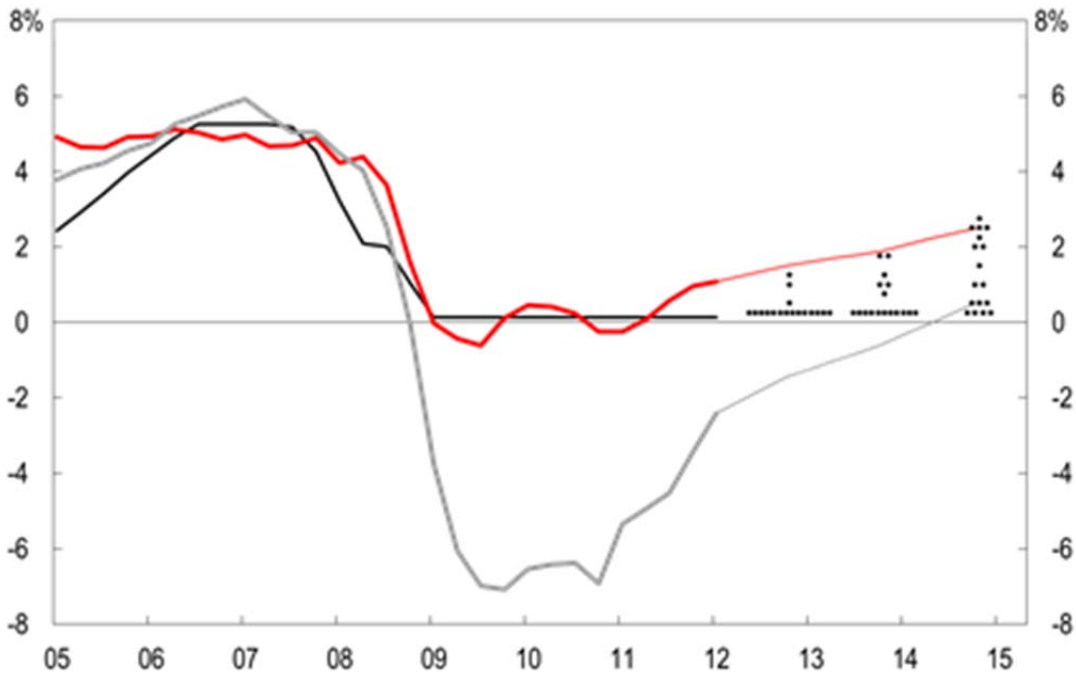
[3] Johannes Stroebel and John B. Taylor, "Estimated Impact of the Fed's Mortgage-Backed Securities Purchase Program," *International Journal of Central Banking*, 2012

[4] John Cochrane, "Is QE2 a Savior, Inflator, or a Dud?" *Bloomberg View* June 2011. See also John B. Taylor, "Commentary: Monetary Policy after the Fall," in *Macroeconomic Challenges: The Decade Ahead* Federal Reserve Bank of Kansas City, 2010, pp. 337-348

sheet also raises questions about the impact on inflation down the road as well as the danger of additional contraction if the Fed has to reduce the size of the balance sheet quickly.

What about the zero lower bound on the short term nominal interest rate? Doesn't that justify the quantitative easing and the massive increases in reserve balances and the monetary base? Not in my view.

First, it is not clear that interest rate policy rules imply that the zero bound is binding to any significant degree. For example, the next chart shows the federal funds rate implied by a rule I proposed in 1992 (in red) and another one which people at the Fed such as Janet Yellen have been emphasizing (in gray). The first rule hovered around zero for a while but did not dip much below zero, thereby hardly recommending much quantitative easing.

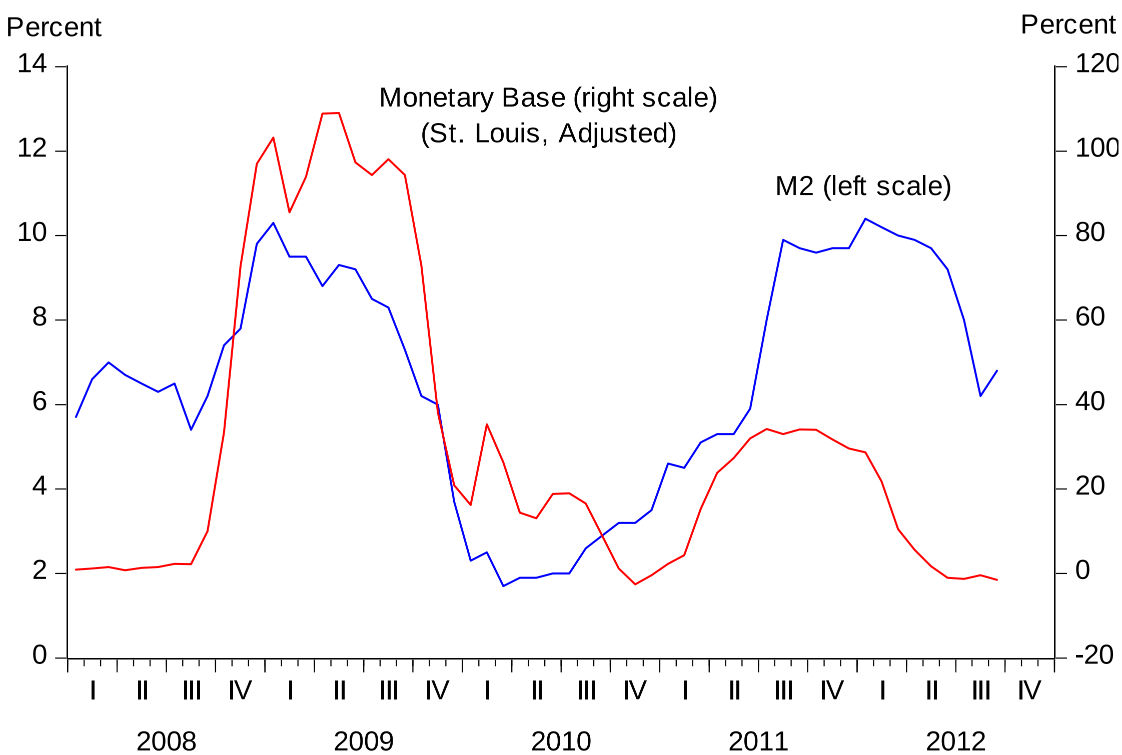


Source: Robert DiClemente, Citigroup, April 2012

Second, my view has been that the appropriate policy when an interest rate rule suggests a negative interest rate is the fail-safe of a switch to a steady money growth rate rule of the kind that Milton Friedman recommended, not to highly discretionary large-scale quantitative easing. This is how we always simulated models to evaluate interest rate rules when they were first being developed in the 1980s. Recall that Milton Friedman argued that simply keeping money growth from declining would have likely prevented the Great Depression of the 1930s in his research and writings with Anna Schwartz. While he did mention the possibility of modest increases in money growth in very depressed times and modest reductions in money growth in excessive boom times, above all he advocated steady money growth, which would have made all the difference in the Great Depression.

To be sure a big increase in reserves or the monetary base would be entirely appropriate if it was needed to prevent broader measures of the money supply from declining, or to achieve steady money growth rates more generally, but not if it simply increases the volatility of money growth.

The Fed's actions since 2009 have not kept the broader monetary aggregates growing steadily as this chart of M2 growth along with monetary base growth shows. While the money multiplier has been quite variable, you can see impacts of changes in the monetary base—which are largely to due to increases and decreases in asset purchases—on the broader M2 monetary aggregate. The same is true for other broader measures of the money supply.



Money Growth
Monthly, Percent change from a year ago

In Milton Friedman's presidential address[5] before the American Economic Association, published in 1968, he explicitly addressed what monetary policy can do and what it can't do. He even took time to comment on the potential damages caused by money growth volatility in the years immediately prior to his address. I quote him below, taking the liberty to "line-in line-out" dates to illustrate what he might have said had the address been given this year,

> "The past few years, to come closer to home, would have been steadier and more productive of economic well-being if the Federal Reserve had avoided drastic and erratic changes of direction, first expanding the money supply at an unduly rapid pace, then, in ~~early~~ ~~1966~~, **late 2009** stepping on the break too hard, then, ~~at the end of~~ ~~1966~~ **in 2010**, reversing itself and resuming expansion until at least November ~~1967~~ **2011**, at a more rapid pace than can long be maintained without appreciable inflation, **and then reducing money growth again in 2012**."

Unfortunately we will never know exactly what Milton Friedman would have said about recent monetary policy, but he was always insistent on the importance of predictable steady rule-like behavior for the policy instruments, and that is not a characteristic of recent policy.[6]

To sum up, I have tried to show in these brief remarks why the recent behavior of monetary policy leaves much to be concerned about. The policy implication is that a change in policy would lead to improved economic performance.

In this sense and in answer to the second question of Lars, I do not think it is correct to say that monetary policy has run out of gas. A return—a steady gradual return—to the type of "steady as you go" policies we had in the 1980s and 1990s and until recently would be as big a positive for the economy as it was in those decades.

[5] Milton Friedman, "The Role of Monetary Policy," *American Economic Review*, Vol. 58, No. 1. , pp. 1-17.

[6] Another question raised during the discussion at the centennial conference is "what about nominal GDP targeting?" In my view, Milton Friedman would have been positive about a proposal to keep nominal GDP growth stable, but would have wanted also to have a specific rule for the instruments of policy to achieve that target.