

MONETARY POLICY IN LOW INFLATION/DEFLATION ENVIRONMENTS



**Jim Saxton (R-NJ), Vice Chairman
Joint Economic Committee
United States Congress**

May 2003

Summary

Some economists equate interest rate policy and monetary policy. In their view, as inflation recedes, inflationary expectations unwind, and interest rates fall to low levels near zero, central banks can find themselves in circumstances where they cannot lower interest rates and therefore monetary policy becomes impotent. This paper shows that this view is misleading; as long as the central bank adopts an appropriate policy apparatus, it can always pursue an easier policy stance and does not become impotent even if short-term rates fall to zero.

The paper outlines the problems facing interest rate policy in low inflation or deflationary conditions and explains why interest rate levels can be misleading policy guides when inflation is low. As long as there is an adequate supply of outstanding government debt, the Federal Reserve can always add reserves and thereby ease policy. Even if that supply should become inadequate, the Fed has an array of alternative assets and mechanisms by which it can add reserves and further ease policy. Thus, monetary policy does not become impotent in such environments. In adopting an appropriate policy apparatus, changes likely would be made to the FOMC policy directive and to the operating instrument. A change to a reserve operating instrument would involve alterations to operating procedures. The discussion suggests that preventing deflationary conditions is preferable to curing them.

Joint Economic Committee
1537 Longworth House Office Building
Washington, DC 20515
Phone: 202-226-3234
Fax: 202-226-3950

Internet Address:
<http://www.house.gov/jec/>

Monetary Policy in Low Inflation/Deflation Environments

Introduction

This study shows that the Federal Reserve can always adopt an “easier” monetary policy stance in a low inflation or deflationary environment. This can occur even when nominal short-term interest rates are as low as zero percent; monetary policy does not become impotent in these situations. The paper outlines problems facing interest rate policy in low inflation or deflationary conditions and explains why the level of interest rates can be particularly misleading as a policy instrument, or policy guide, when inflation is low. Alternative procedures, instruments, and intermediate indicators that can be useful in such an environment are reviewed and evaluated. Some implications for monetary policy strategy are summarized.

The Problem

A low inflation (or deflationary) environment produces some unusual circumstances for monetary policies employing short-term interest rates in implementing policy; i.e., for policies employing interest rates as policy guides, instruments, intermediate indicators, or policy targets.¹ In such an environment, long- and short-term interest rates decline in the face of falling inflationary expectations or the emergence of deflationary expectations.

Various ingredients often combine to contribute to the creation of such low inflation/deflationary conditions. These conditions, for example, may be the product of explicit or implicit inflation targeting combined with world deflation and associated with wealth losses and balance sheet deterioration brought about by significant asset price deflation. Furthermore, recent research suggests that common measures of inflation often overstate its rate; i.e., genuine inflation is often actually lower and deflation a higher risk than indicated by popular inflation measures such as the CPI.²

As mentioned, in low inflation or deflationary circumstances, interest rates fall as inflationary expectations unwind. In a deflationary environment, the nominal short-term interest rate may fall further; it can fall to, or close to, zero percent, as deflationary expectations continue to take root. As deflation worsens and deflationary expectations grow, the nominal short-term rate necessarily remains at zero percent: it cannot continue to adjust downward. But if deflationary expectations continue to advance, the real

¹ Since the world is characterized by imperfect information and significant policy lags, most policymakers use policy instruments in combination with intermediate policy indicators, guides, or targets to achieve policy goals.

² See, for example, David E. Lebow and Jeremy B. Rudd, “Measurement Error in the Consumer Price Index: Where do We Stand?”, *Journal of Economic Literature*, vol. XLI (March 2003), pp. 159-201. These authors “conclude that the CPI is currently and prospectively overstating the true rate of change in the cost of living by about 0.9 percentage point per year,” p. 160.

interest rate will increase since the nominal rate remains at the zero percent floor. In short, a divergence between the observed nominal interest rate and the real rate emerges. This situation is referred to as the “zero bound” constraint that some economists say shackles monetary policy.³ Once the fed funds rate falls to zero, therefore, the Federal Reserve cannot move its interest rate instrument downward. As deflationary expectations grow, real rates increase, automatically tightening the stance of monetary policy and, because of the strong attachment to conventional interest rate operating procedures, reducing the likelihood monetary policy will move to stimulate the economy.

Implications

There are important implications to this low inflation (or deflationary) situation. In particular, interest rates can be highly misleading as policy instruments, indicators, or policy targets for several reasons in such circumstances. For example, observable, low interest rates suggest that the stance of monetary policy is “easy” or “accommodative” when in fact policy may be quite “tight” or “restrictive.” This may occur because low short-term interest rates reflect a weak economy and weak demand for funds rather than strong fund supply. In this case, low interest rate levels do not mean policy is “easy,” but may reflect a longstanding restrictive policy. Similarly, from a Wicksellian perspective, low interest rates may be consistent with the situation where the unobservable natural rate or rate of return on capital is lower than the observable bank rate. In this case as well, a low bank rate does not mean policy is “easy.” In such situations, policymakers may be seriously misled by relying on the unchanging information provided by nominal, observable interest rates. Monetarists have emphasized this very point for years: interest rates can be highly misleading policy guides, particularly in low inflation situations. In situations when short-term rates are near zero percent, it may be the case that nominal interest rates provide no useful information to the market about the relative supplies and demands for liquidity.⁴ So monetary policymakers can make serious policy mistakes by focusing on the nominal federal funds rate. Additionally, essential flexibility of monetary policy instruments may be compromised in these situations.⁵ Instead, the well-known and long-standing problem of monetary policy inertia asserts itself.

Classic examples of such monetary policy mistakes include Federal Reserve policy in the early 1930s. During that important period, which included substantial general price deflation, many believed that the existing low short-term interest rates suggested that the Federal Reserve’s policy stance was “easy” in spite of significant commodity price deflation and a substantial contraction of the money supply. Japanese experience of recent years provides another example that has been extensively analyzed in the literature.⁶

³ See William Dudley, Goldman Sachs, April 4, 2003, p.4

⁴ See Vincent Reinhart, “Tools for Combating Deflation,” A Presentation to the National Association of Business Economists, March 25, 2003, p. 8.

⁵ This flexibility is needed because of the constant movement of the “equilibrium” or “natural” rate.

⁶ See, for example, Alan Ahearne, Joseph Gagnon, Jane Haltmaier, Steven Kamin, and others, “Preventing Deflation: Lessons From Japan’s Experiences in the 1990s,” International Finance Discussion Paper, Board of Governors of the Federal Reserve System, Number 729, June 2002, and the bibliography therein.

Some analysts who equate monetary policy with interest rate policy, contend that when the Fed-controlled fed funds rate goes to zero percent, interest rate cuts are exhausted and monetary policy loses its power to further affect aggregate demand and prices; monetary policy becomes impotent. This view is mistaken as strongly emphasized by both recent research as well as in speeches of Federal Reserve Chairman Greenspan and Fed Governor Bernanke. In fact, the Federal Reserve can always pursue a more expansionary monetary policy if it uses a proper policy apparatus. Indeed, as suggested by Clouse and others, (2000), a whole array of alternative assets and procedures can be used to supply reserves, stimulate aggregate demand, and meet inflation goals.

Available Remedies

Given the potentially misleading character of short-term interest rates in low inflation/deflation environments, the Federal Reserve must select policy instruments, guides, or procedures that enable it to readily pursue an easier monetary policy in these conditions. The Fed can pursue such an easier policy by expanding the scale of its asset purchases or broadening the menu of the assets it buys.⁷ As long as there is a substantial outstanding stock of government debt, only the former alternative may be necessary (and an expanded menu may not be needed). The Federal Reserve should be able to supply (potentially unlimited) reserves and money in meeting its aggregate demand or inflation goals. The Fed must change several items to accomplish this. But it is not necessary to change the goals of policy and perhaps not its policy indicators or intermediate targets. Nonetheless, it probably should (at least temporarily) change its policy instrument, the fed funds rate, and may want to alter some of its policy apparatus or operating procedures. These changes presumably would be reflected in the intermeeting policy directive to the open market desk. Further, it would be incumbent on the Fed to explain its newly adopted procedures to the public in a fully transparent way.

Since there does not appear to be any meaningful shortage of government debt to purchase in the foreseeable future, other assets or mechanisms may not be necessary to prepare for use in supplying reserves. Nonetheless, the literature does identify a number of possible alternative assets and mechanisms for this purpose. **Among the principle mechanisms or asset classes to serve in readily supplying reserves are the following:**

- **A Precommitment Strategy:** One approach mentioned by Federal Reserve spokesmen involves a precommitment strategy. Specifically, the Fed would make a commitment to keep the Federal funds rate at a very low level for an extended, specified period of time. This would involve supplying more reserves in order to bring down rates covering a broader segment of the maturity spectrum. This could be associated with an implicit strategy to “manage” market expectations of future interest rates. It also could be associated with a commitment to peg long-term Treasury rates.

⁷ See Governor Ben S. Bernanke, “Deflation: Making Sure ‘It’ Doesn’t Happen Here,” Speech before National Economists Club, Washington D.C., November 21, 2002, p. 5.

Such a precommitment strategy, however, flies in the face of recommendations of research suggesting that in circumstances of low inflation, the Federal Reserve should move “early and often” (pre-emptively) in adjusting interest rates or reserves. Further, such a strategy would “gum up” policymaking by making it more rigid, less flexible, and more sluggish.

- **Purchases of Long-Term Treasuries:** Another way for the Fed to supply reserves is to begin purchasing longer-maturity Treasury securities. Normally, when interest rates fall and short-term interest rates approach zero percent, long-term rates remain elevated relative to short-term rates. This allows the Fed to continue to add reserves via a familiar interest rate apparatus by switching from operating in the short-term market to operating in the long-term market. The effects on bank reserves are the same whether treasury bills or bonds are purchased.⁸ The Federal Reserve actually has some experience operating in the long market; it pegged the yields of Treasury bonds during World War II and until the Treasury-Federal Reserve Accord of 1951.⁹
- **Purchases of Foreign Exchange:** Theoretically, under flexible exchange rates, an alternative method of expanding reserves and thereby pursuing an easier monetary policy is for the central bank to purchase foreign exchange (or intervene in the foreign exchange market). In effect, the Federal Reserve would buy foreign, instead of domestic, treasury securities. The foreign exchange rate would be directly rather than indirectly impacted by this nonsterilized intervention.

A host of practical considerations are associated with such Federal Reserve foreign exchange operations that merit mention. First, the Fed normally coordinates or takes a subordinated position to the Treasury Department in any foreign exchange operations. So Fed-initiated operations may stir opposition from the Administration. Second, the Federal Reserve would have little practical experience in supplying reserves via operations in the foreign exchange market. And any use of a foreign exchange “target” or indicator would ignite a great deal of criticism and opposition. Accordingly, it may take some time before such operations function smoothly. Consequently, these operations may be associated with a degree of uncertainty, at least in the short-run.

- **Purchases of Private Sector Debt:** Reserves can also be supplied by the Federal Reserve with purchases of certain forms of private sector and other forms of debt. In particular, the Federal Reserve is explicitly authorized to purchase forms of private sector debt such as bankers acceptances and bills of exchange. Further

⁸ James Clouse, Dale Henderson, Athanasios Orphanides, David Small, and Peter Tinsley, “Monetary Policy When the Nominal Short-Term Interest Rate is Zero,” Finance and Economics Discussions Series, Federal Reserve Board, 2000-51, p. 31.

⁹ See Governor Ben S. Bernanke, “Deflation: Making Sure ‘It’ Doesn’t Happen Here,” Speech before National Economists Club, Washington, DC, November 21, 2002, p.6; See also Clouse, et.al., op.cit., p. 34.

authorization has been provided to purchase government-sponsored agency debt, gold, state and local government debt, and foreign government debt.¹⁰

No express authority has been given for the Federal Reserve to purchase corporate bonds, bank loans, commercial paper, mortgages, credit card receivables, land or equities. This lack of explicit authority, however, may be quickly remedied by Congressional action should an urgent need develop. Of course, while purchases of private assets may be feasible, they may pose significant political problems for the central bank (such as charges of political favoritism).¹¹ Furthermore, like foreign exchange, the Federal Reserve has little practical experience in adding reserves by purchasing private sector debt. Accordingly, it may take awhile before such operations operate smoothly. And these operations would likely also be surrounded by a degree of uncertainty in the short-term.

- **Federal Reserve Lending:** The Federal Reserve can also lend directly to financial institutions. In so doing, it not only supplies reserves and liquidity to these institutions, but also (indirectly) encourages them to lend to households and firms. Such Federal Reserve lending takes the form of advances and discounts, both of which are explicitly authorized in the Federal Reserve Act.¹² Notably, there are restrictions on these credit extensions. In unusual circumstances, when these financial institutions do not respond by further lending, the Federal Reserve is authorized to bypass them and (under certain conditions) lend directly to households and firms.

In sum, a wide array of assets or mechanisms is available to the Federal Reserve that can be used to supply reserves and thereby impact money, aggregate demand, and prices should short-term interest rates fall to zero percent. And the Federal Reserve can use some or all of these reserve-supplying options at the same time in order to achieve its monetary policy goal.¹³ But in a situation where there is an ample supply of outstanding government debt, these alternatives would not be necessary. Purchases of Treasuries would prove quite adequate. In short, given the ample stock of outstanding government debt and available alternative ways of supplying reserves, monetary policy does not become impotent when short-term rates fall to zero.

Other Changes

Should any of the above alternatives become part of standard operating procedures, these changes presumably would be reflected in an altered directive to the open market desk. Since current operating procedures are designed for an interest rate instrument, using another interest rate such as a longer-term interest rate would be most

¹⁰ See, for example, Clouse, *et al.*, *op.cit.*, pp.47-58, for a discussion of the forms of debt that have been explicitly authorized.

¹¹ See Alan S. Blinder, "Monetary Policy at the Zero Lower Bound: Balancing the Risks," *Journal of Money, Credit and Banking*, vol. 32, No. 4 (November 2000, Part 2), p. 1097.

¹² See Clouse, *op. cit.*, pp. 59-65.

¹³ See Blinder, *op. cit.*, p. 1099.

compatible with the existing policy apparatus and likely not disruptive. Adopting “unusual,” untested instruments or procedures would involve a move into “uncharted waters” and hence likely will be associated with a higher degree of uncertainty and policy inertia or sluggishness at least until all the “bugs” were worked out.

Additionally, other, more dramatic changes are possible to implement. A change in the policy instrument and operating procedures from an interest rate to an explicit reserves operating procedure, for example, would have major repercussions.¹⁴ In pursuing an easier monetary policy stance, for example, the Federal Reserve would expand the supply of reserves until this easier policy stance registered on intermediate indicators or guides deemed reliable in low inflation environments. Monetary aggregates or market price indicators, might serve this latter purpose. Reserves could be increased, for example, until some specified reflation occurred in broad commodity price indices, thereby signaling that deflation concerns are on the wane.

Some Policy Implications

A few additional policy implications of a central bank operating in a low inflation environment merit mention. First, as emphasized in one Fed study about preventing deflation, when the risks of deflation are significant, central banks should move aggressively and pre-emptively to ensure against falling into a deflationary environment. As this study argued:

“...when inflation and interest rates have fallen close to zero, and the risks of deflation are high, (policy) stimulus should go beyond the levels conventionally implied by baseline forecasts of future inflation and economic activity.”¹⁵

The implication is that preventing deflation is preferable to curing it. These considerations have led some to advocate adjusting and perhaps widening desirable inflation targets to, say, 1-3 percent.¹⁶

Second, adopting new methods, procedures, or instruments that are unfamiliar and untested will take time before smooth, accurate operations can be expected. Consequently, as mentioned above, such new procedures will be associated with a higher degree of uncertainty than other, familiar procedures and instruments.¹⁷

Summary and Conclusions

Some economists equate interest rate policy and monetary policy. In their view, as inflation recedes, inflationary expectations unwind, and interest rates fall to low levels near zero, central banks can find themselves in circumstances where they cannot lower interest rates and therefore monetary policy becomes impotent. This paper shows that

¹⁴ A non-borrowed reserve strategy was used during the 1979-1982 period.

¹⁵ See Ahearne, *et al.*, *op. cit.* p.7.

¹⁶ See Bernanke, *op. cit.*, p.5.

¹⁷ See Bernanke, *op. cit.*, p.5.

this view is misleading; as long as the central bank adopts an appropriate policy apparatus, it can always pursue an easier policy stance and does not become impotent even if short-term rates fall to zero.

The paper outlines the problems facing interest rate policy in low inflation or deflationary conditions and explains why interest rate levels can be misleading policy guides when inflation is low. As long as there is an adequate supply of outstanding government debt, the Federal Reserve can always add reserves and thereby ease policy. Even if that supply should become inadequate, the Fed has an array of alternative assets and mechanisms by which it can add reserves and further ease policy. Thus, monetary policy does not become impotent in such environments. In adopting an appropriate policy apparatus, changes likely would be made to the FOMC policy directive and to the operating instrument. A change to a reserve operating instrument would involve alterations to operating procedures. The discussion suggests that preventing deflationary conditions is preferable to curing them.

Dr. Robert E. Keleher
Chief Macroeconomist to the Vice Chairman