

# Commentary: How Should Monetary Policy Respond to Shocks While Maintaining Long-Run Price Stability? —Conceptual Issues

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Thank you Mr. Chairman. It's a great pleasure to be here and a special honor to appear on so distinguished a panel.

## **The Great Inflation**

John Taylor has produced a comprehensive and insightful paper. He begins by reviewing what he calls the “Great Inflation,” the period of the 1970s and early 1980s. Following Brad De Long’s observation that by the early 1970s, well before the oil shocks, baseline U.S. inflation was already in the 4 percent to 5 percent range, John Taylor rejects the hypothesis that the oil price shocks of the period were the main source of the rise of inflation. While De Long’s observation does suggest that shocks were not the sole source of the inflation of the 1970s, in my view, one cannot conclude that shocks were not important contributors to the inflation of the 1970s. Concurrent with shocks, the 4 percent to 5 percent inflation of the early 1970s accelerated to above 9 percent in the mid-1970s and again in the late 1970s and early 1980s. So I think it is reasonable to suggest that these oil price shocks, though not the sole source, were a significant contributor to the inflation of this period, both directly and especially indirectly through the interaction of shocks and policy mistakes. Shocks put policy under pressure and provide enhanced opportunities for policy mistakes. For example, the over-

estimation of the cost of disinflation in the presence of these shocks likely combined to contribute to the higher inflation of the period.

After absolving shocks of blame, John Taylor concludes that the prime cause of the inflation of the 1970s and early 1980s was policy mistakes. I do agree that policy mistakes played a significant role in the Great Inflation. This raises the question as to how one can explain these policy mistakes. In reviewing this issue, John Taylor rejects the argument that time inconsistency problems produced these policy mistakes. He does so by appealing to the proposition that society—and presumably society's agents, politicians—that politicians are simply much too rational and farsighted to be misled by short-term, myopic considerations. Instead, they are wise enough to look through short-term considerations and focus on the longer term. I think this is a particularly courageous argument to make in the United States in years divisible by four. In fairness, I should add that he also presents somewhat more convincing arguments with respect to the inadequacy of this hypothesis to explain the European inflation experience.

As a result, John Taylor assigns the bulk of the blame for the inflation of the 1970s and early 1980s squarely on the shoulders of the economics profession in general and economic theorists in particular. Perhaps he overstates their influence. I do not precisely recall that professors were so firmly in control of the policy apparatus during this period. I must say that I was relieved for my colleagues who remain in the academic community, that John Taylor did not extend his analysis to suggest attaching financial liability to economic research, requiring professors to pay compensation to the hapless victims of their mischief. Interestingly, he does suggest attaching warning labels to new economic research requiring that new theory should be taken only with large doses of traditional remedies such as Adam Smith and David Hume.

Continuing in the academic vein, John Taylor does recommend a study of the Great Inflation as part of the required curriculum in the training of central bankers. I would suggest extending this to shocks. Shocks cannot be anticipated with respect to timing, but some types

of shocks seem to recur periodically. Oil price shocks might be an example. One concrete suggestion for the practical training of policymakers is that I think it would be useful for central bankers to examine explicit case histories of prominent shocks, perform economic autopsies to assess actual policy responses, and contemplate alternative policy paths. Candidates for this exercise include the oil price shocks of the last several decades, the German reunification, and the stock market crash of 1987. With respect to the latter incident, it is interesting to note that the 25 percent decline in stock prices in one day in October 1987 is considered a shock. But, an increase of almost 50 percent in U.S. stock valuations during the last year and a half is not noted as a shock. Other episodes worth examining include the deflating of the Japanese asset price bubble, the collapse of the exchange rate mechanism (ERM), and the impact of the Mexican crisis on other emerging economies to name a few.

#### **Practical issues associated with shocks**

As an addition to the conceptual approach presented by John Taylor, there are a few practical points worth noting with respect to shocks. Shocks, by their nature, are destabilizing, producing volatility, which alone can be damaging. I think, perhaps, the first principle of response is to do no unintended harm and respond with caution to avoid unnecessarily amplifying instability. One wants to avoid monetary authority actions which represent an additional source of volatility. So therefore, it would be useful to respond in a manner which engenders confidence.

Perhaps a corollary principle is that one should not underestimate the self-equilibrating capacity of economies and financial systems, their inherent ability to respond to and absorb shocks. It is at least plausible that recent developments have enhanced the capacity of economies to absorb shocks. An example in the United States would be the continuing process of a relatively rigid, institutionalized financial system evolving toward a more flexible, responsive market system. While the rapid transmission of shocks through markets might itself entail risks, market rates and asset prices respond with a force and speed, often in a counter-cyclical manner, which, in

effect, may do some of the work for policymakers. A nonfinancial example of this possibly increased capacity of economic systems to respond to shocks is the advances in information technology inherent in point-of-sale information systems. Such systems allow production, distribution, and inventory managers to respond quickly to shifts in supply and demand, dampening the amplitude and muting the force and economic significance of traditional inventory cycles.

Another issue is the increased interconnection among international economies. Because of this, global shocks might be expected to engender coincidence responses from many monetary authorities. The cumulative impact of these responses might be more forceful than anticipated by one central bank focused on its own economy. So in a global economy, somehow monetary authorities in responding to shocks must take into account the likely response of other monetary authorities as well.

### **Price stability, deflationary shocks, and negative real interest rates**

John Taylor does not address one particular concern associated with shocks noted in Stanley Fischer's paper. Consider a monetary authority successfully pursuing either price stability or a very low inflation rate. The result would be a very low interest rate environment. The concern is that since nominal interest rates are bounded from below by zero, will such a monetary authority have the capacity to respond to a sharp deflationary shock? In such an environment, for example, it would seem quite difficult to engineer negative real interest rates as a response.

Some would suggest that a policy of reducing interest rates to zero, flooding the economy with liquidity, would ultimately be effective. This is consistent with John Taylor's suggestion that at very low or very high inflation, it might be useful to go to quantity-based policies as opposed to interest rate policies. To gain insight into these issues, it might be useful to examine episodes such as the recent experience in Japan. However, I suspect the recent Japanese experience has unique aspects concerning the severe problems within

that financial system. Moreover, I think it is also accurate to recall that this situation would not represent unchartered policy territory for the United States. Indeed, U.S. inflation and nominal interest rates were quite low in the 1950s and early 1960s through several economic cycles without memorable policy problems, and it could be instructive to examine this period as well. I would, however, highlight this problem because we need a convincing analysis to refute those who would argue that a little bit of inflation is a good thing.

### **Shocks under different monetary policy objectives**

With these points in mind, what about the primary issue at hand? I very much agree with the main thrust of John Taylor's paper. How should monetary policy respond to shocks? In my view, the answer is straightforward, at least conceptually. Policymakers' response should be derived rigorously and consistently from the objective pursued by the central bank. However, this could result in quite different policy responses and economic outcomes depending upon differences in the objectives of monetary authorities.

To illustrate, I would like to focus for a moment on one issue which John Taylor discussed briefly in his paper; that is the distinction between two leading candidates for the objective of monetary policy. The first is strict adherence to the objective of price stability, that is, stabilizing the price level through time; and the second is pursuing a target of low inflation or zero inflation, stabilizing the inflation rate through time.

I do think these are conceptually quite different policy objectives. With price level stability, market participants and other economic agents have a commitment, a promise from the government in the form of the central bank to stabilize the price level. With inflation rate targeting, there is simply no such commitment. With a zero inflation target, there is a promise not to systematically and intentionally devalue the purchasing power of the currency. But since such a policy, in effect, forgives and forgets the impact of price shocks and policy mistakes, the monetary authority essentially takes no responsibility for the actual path of the price level. With inflation

rate targeting, the actual price level will, of course, drift as a function of the cumulative incidence of shocks and policy mistakes, their frequency, direction, and magnitude. The monetary authority's lags in adjusting to these shocks and policy mistakes will also influence the price level.

What distinguishes the objective of price stability from zero inflation is only the impact of shocks and policy mistakes. The objectives are isomorphic and produce identical results unless shocks knock the economy out of line with policy or policy mistakes knock policy out of line with the economy. In practice, even with a zero inflation target, the actual price level can, through time, exhibit large departures from price level stability. Market participants will assess the risk of such large departures and incorporate an appropriate risk premium for the possibility of departures from price level stability. The potential for price level instability should also influence the decisions of other economic agents as well.

Whether this conceptual distinction has any economic significance depends upon the expected future incidence and nature of shocks and policy mistakes and how monetary authorities adjust to these departures from target. Standing at the end of what John Taylor calls the Great Inflation, a period characterized by both severe shocks and policy mistakes, at such a time it is certainly plausible that market participants and other economic agents would view a commitment to price level stability as substantially different from a zero inflation target, a difference motivated by the potential for poor price performance driven by shocks and policy mistakes inherent in the zero inflation target approach.

It is less clear that the deficiencies in inflation rate targeting would be economically significant in today's environment. John Taylor, in his analysis, considers the period following the Great Inflation as a relatively enlightened period of policymaking, characterized by success in handling shocks. Still, in 1990, when the Iraqis invaded Kuwait, the resulting oil price shock contributed to a U.S. consumer price index (CPI) inflation rate in 1990 of 6 percent. As John Taylor notes, this did not get into the underlying inflation rate. As you

recall, we immediately descended into recession and experienced a bout of what I think now is called opportunistic disinflation. The 6 percent inflation shock of 1990 did, however, remain in the price level and, in my view, was incorporated in market assessments, as indicated by generally stubbornly high long bond rates during the early 1990s. Indeed, in the six years within the 1990s (1990-95) the U.S. price level has increased 24 percent. At this inflation rate, prices double every two decades. Departures from price stability of this magnitude should be expected to alter the decisionmaking of market participants and other economic agents.

So the goal of targeting inflation, even zero inflation, has the potential for much poorer price performance as opposed to the direct commitment to price level stability as an objective.

But, of course, there is more to the distinction between these two objectives than simply price performance. There should also be a substantial difference in the economic variability associated with the monetary authority's response to shocks under price stability compared with a target inflation objective. For example, consider an inflation shock of 4 percent. With a zero inflation target, the monetary authority's response need only produce disinflation from 4 percent to zero. Depending upon the timing of the policy response, the price level might rise by 6 percent to 10 percent, a measurable departure from price stability.

In contrast, with strict adherence to price level stability, it would be necessary not just to produce 4 percent disinflation, but it would also be necessary to produce a symmetric period of deflation, an actual decline in prices necessary to bring the price level down to the initial target level. Thus, with the objective of price level stability, the monetary authority's response to a shock should produce substantially greater variability in economic performance compared to the result with an inflation target.

So the general conclusion is that pursuing price level stability promises the economy the advantages of stable prices, but at a cost of greater economic instability in response to shocks and policy

mistakes. In contrast, pursuing a low inflation target, even a zero inflation target, runs the risk of substantially poorer price level performance, but has the advantage of producing less economic instability in response to shocks.

I have ignored the possibility that economic stabilization appears directly in the monetary authority's objective function (as suggested, for example, by the Humphrey-Hawkins Act in the United States). Adding this modification would change the response to shocks under both policy objectives, but should not change the general pattern of the result that targeting price stability produces greater instability in economic activity associated with shocks. The reason, of course, is that price stability as an objective, requires reversing price shocks, and seems to inherently involve increased economic volatility in comparison to a target inflation rate policy.

Market participants may incorporate a risk premium under inflation rate targeting to account for the possibility of price level instability. Similarly, under a price stability objective, it is possible that market participants and other economic agents adversely affected by volatility, will assess these risks and incorporate an appropriate risk premium or otherwise alter their behavior, to account for the greater economic volatility under price level targeting.

### **The choice of monetary policy goals**

How then, should one choose between the objectives of price stability and zero (or low) inflation as a target? John Taylor simply makes a judgment call, concluding that in his judgment, the increased economic variability associated with price stability as an objective outweighs the advantages of better price performance. Therefore, John Taylor, in his paper, prefers an inflation rate target. This answer may be sufficient for use in the current U.S. policy context, where over the past ten years through July 1996, the U.S. consumer price level has increased by fully 46 percent and indeed in 1996, year-to-date CPI inflation is running at roughly a 3.5 percent annual rate. Perhaps in such an environment, our policy energy should be focused on continuing to reduce inflation, rather



than arguing about or fantasizing about which goal we should select after inflation is eliminated.

But I do hope that this answer is not sufficient in the future. As more and more central banks are successful in reducing inflation, increasingly they will confront the question of where to stop—at low inflation, zero inflation, or price level stability. And I think this question of the distinction among these objectives will emerge as a central issue of importance to practitioners of monetary policy. The reason is that these different objectives have the potential of producing very different responses and very different patterns of economic outcome.

Ultimately, how should the choice be made? While this is certainly not the topic of this session, I would like to conclude with a few thoughts on this issue. I would note two approaches. First, some argue that central banks are simply creations of the political system and policymakers should be dutiful technocratic servants, obediently following the dictates and goals of society expressed through the political system. Some argue that central bankers should look to public opinion polls for goals. I must admit that this approach is not entirely satisfactory to me. It conflicts with the observation that the monetary authorities do not seem to act simply as agents. More generally, I question whether it is useful to exclude those professionals most experienced and knowledgeable on these issues from a proactive role in the selection of a monetary policy objective. At the other extreme is perhaps a tendency in some central banking circles simply to assert the validity of price stability as an article of blind philosophical faith. This approach is equally unsatisfactory.

In my view, economists and central bankers in their first analysis of the appropriate monetary goal, should begin by ignoring the approaches mentioned above. Instead, I think we should address the question of the appropriate goal of monetary policy as an issue of objective of economic science. Which goal produces the best results in terms of social welfare? Do the benefits of moving from low inflation to zero inflation to price stability outweigh the costs?

This issue is an important topic for research, and there has been recent research activity focused on the issue. I would question the research focus on the downward rigidity of nominal wages (Akerlof, Dickens, and Perry (1996), Lebow, Stockton, and Wascher (1995)). In my view, the focus should not be on nominal wages, but on nominal compensation.

In the United States, benefits account for close to 40 percent of compensation. Moreover, benefits include a heterogeneous bundle of complex contingent claims (for example, insurance, medical benefits) some with long horizons (for example, pensions). Unlike wages, these benefits are quite difficult for workers to value precisely. It should not be difficult to reduce nominal compensation through difficult to value reductions in benefits without workers perceiving any noticeable discontinuity as the change in total compensation passes through zero. Indeed, with the substantial reining in of benefits during the past several years in the United States, (for example, medical, insurance, switch from defined benefit to defined contribution pension plans), we have likely experienced a significant incidence of reductions in nominal compensation, even with rising wages.

Chairman Greenspan mentioned another approach to changing compensation—altering the nature of the job, the quantity of work. Again, in view of the widespread job restructuring activity in the United States, one might suspect this has also led to reductions in nominal compensation with rising wages as workers have been asked to do more.

These two degrees of freedom, adjusting benefits and the quantity of work, should provide ample grease for the wheels of the labor market. Why should one expect employers to have to reduce wages, the most visible component of compensation? In my view, the infrequency of reductions in wages says very little about the frequency of reductions in nominal compensation.

Moreover, as Gordon Thiessen noted, learning is important here. It takes time to get used to an environment of low inflation, to build

confidence in stable purchasing power, and to accept the implications for nominal income. It is true even in a moderate inflation environment, those employed in industries that have experienced pervasive deregulation (for example, airlines) have gotten used to lower nominal wages. More generally, U.S. workers in the lower segments of the income distribution have experienced declining wages for the past decade or so. Therefore, before reaching even tentative conclusions on the downward rigidity of nominal compensation, I think we need evidence on more than just the most observable component of compensation.

In my view, the real challenge to zero inflation is not the evidence to date on the downward rigidity of nominal compensation, because I think there is very little persuasive evidence on this issue. Nor is it the concern about the inability to produce negative real rates. We experienced and prospered in a low rate environment in the past.

The real challenge to zero inflation is implicit in John Taylor's paper and in Stanley Fischer's paper as well. Simply put, what is wrong with 2 percent inflation, properly measured? To put it even more bluntly, isn't 2 percent inflation close enough for government work?

My response would be: why abandon the scientific approach that got us here? At low inflation rates, why dissolve into gesticulation? Instead, we should, in an objective and rigorous manner, examine the evidence on the costs and benefits of going from 2 percent inflation to zero inflation to price stability. Under the U.S. tax system, very low inflation rates translate into relatively significant and costly distortions. Interesting research into this issue has recently been presented by Martin Feldstein (1996) who argues that the lasting benefits of price stability outweigh the one-time cost of establishing it. It is encouraging to see active research on these topics, and in my view, more research is needed to provide definitive insight into this important issue.

**Conclusion**

Even after convincing evidence is assembled, of course, central bankers and economists still face the not insubstantial task of gaining support in the political system for the best objective. The main point of my discussion is that once this objective function is rigorously defined, many, if not most, of the conceptual issues associated with how monetary authorities should respond to shocks are also determined. The question of how to respond to shocks collapses into the more fundamental question of what is the best objective for monetary policy. I agree with John Taylor that the best approach for monetary authorities confronting the challenges of shocks, is to stay focused on sound longer-term objectives of monetary policy.