Commentary

Lars E.O. Svensson

arry Meyer has presented us with a fine paper on practical problems and obstacles to inflation targeting in the United States—a very suitable paper for this great conference at the St. Louis Fed. I find it a very thoughtful paper with many good points. I agree with most of the points Larry makes; I hope many people will read the paper and, in particular, take seriously his proposal for inflation targeting in the United States.

However, one issue that I believe Larry puts too much weight on is his pet idea, the distinction between a dual and hierarchical mandate. I do not believe this distinction is very useful. We are all flexible inflation targeters now. More precisely, we are all talking about an intertemporal loss function for monetary policy consisting of the expected discounted sum of present and future period losses, that is, of the form

$$E_t \sum_{\tau=0}^{\infty} (1-\delta) \delta^{\tau} L_{t+\tau}$$

where the period loss function is typically given by

$$L_t = \frac{1}{2} \Big[\big(\pi_t - \pi^* \big)^2 + \lambda_y \big(y_t - \overline{y}_t \big)^2 \Big].$$

Here, E_t denotes expectations conditional on information available in period *t* (typically a quarter), δ is a discount factor and fulfills $0 < \delta < 1$, π_t denotes an inflation measure in period *t* (typically fourquarter inflation for a specified price index), π^* denotes the inflation target, y_t denotes log output, \overline{y}_t denotes log potential output, $y_t - \overline{y}_t$ is the output gap, and $\lambda_y > 0$ is the relative weight on output-gap stabilization relative to inflation-gap stabilization. Alternatively, the period loss function can be expressed in terms of employment,

$$L_t = \frac{1}{2} \left[\left(\pi_t - \pi^* \right)^2 + \lambda_l \left(l_t - \bar{l}_t \right)^2 \right],$$

where l_t and \overline{l}_t denote log employment and log equilibrium employment, respectively, $l_t - \overline{l}_t$ is the employment gap, and $\lambda_l > 0$ is the relative weight on employment-gap stabilization.¹

Let us look at the loss function in terms of the output gap. There are three parameters there: δ , π^* , and λ_y . The δ , the discount factor, is very close to 1 and not a big issue. The π^* is the inflation target, announced explicitly by an inflation targeter. There remains only one parameter, the λ_y , the relative weight on output-gap stabilization. The adjective "flexible" in "flexible inflation targeting" has to do with the value of λ_y .

The issue is really how to describe a loss function of this type in words rather than a formula. I do not believe the dual-hierarchical distinction helps in this respect. But, if we must use it, we can think of this loss function as saying something about the *first* moments, the long-run means, of the target variables, inflation and output; and the *second* moments, the variability of the target variables around those means.

Regarding the first moments, there is a target for long-run mean inflation, π^* . This target is subject to choice by the central bank or by its principal, the government or the parliament, depending on the institutional setup in the country. But the target for output is *not* subject to choice. It is a "fact." It is given by the economy, by its potential output. Since potential output is an unobserved variable, it requires estimation. We can say that the output target is subject to *estimation*, but it is certainly not subject to *choice*. Alternatively, we can say that the *output-gap* target is given at zero, and also not subject to choice. Since there is a meaningful choice of the target for long-run inflation but not of the target for long-run

Federal Reserve Bank of St. Louis *Review*, July/August 2004, 86(4), pp. 161-4. © 2004, The Federal Reserve Bank of St. Louis.

The period loss function could also be expressed in terms of the unemployment gap, $u_t - \overline{u}_t$, instead of the employment gap, where u_t denotes unemployment and \overline{u}_t denotes equilibrium unemployment.

Lars E.O. Svensson is a professor of economics at Princeton University, a research fellow of the Centre for Economic Policy Research, and a research associate of the National Bureau of Economic Research. The author thanks Norbert Janssen for editorial assistance.

Svensson

output or the output gap, and therefore an asymmetry between the two targets, we can, if we like, talk about a *hierarchical* mandate for long-run inflation.

Regarding the second moments, the parameter λ_{v} expresses the weight on the loss from output-gap variability relative to the loss from inflation variability. Whenever λ_v is positive, output-gap stability, as well as inflation stability, is an objective. There is a symmetry between the two variability objectives, and we can, if we like, talk about a dual mandate for inflation-gap variability and output-gap variability. Since all inflation targeters are flexible inflation targeters, in the sense that they are concerned about stability of the real economy in addition to stability of inflation, we can, if we like, talk about inflation targeters as having a dual mandate. But, as long as we know that we are talking about different verbal descriptions of monetary policy loss functions of the kind stated above, I do not find the dual/hierarchical mandate distinction helpful. In particular, it is misleading to say that inflation targeters have a hierarchical mandate but the Fed has not.

Let us compare the mandates for the Fed and for the Reserve Bank of New Zealand (RBNZ). The mandate for the Fed, as expressed in the Federal Reserve Act, is: "[The Fed shall] promote effectively the goals of maximum employment, stable prices, and moderate long-term interest rates." The mandate for the RBNZ, as expressed in the 2002 Policy Target Agreement (PTA), is: "[The RBNZ's policy target] shall be to keep future CPI inflation outcomes between 1 per cent and 3 per cent on average over the medium term." But the PTA also states that, "[i]n pursuing its price stability objective, the Bank...shall seek to avoid unnecessary instability in output, interest rates and the exchange rate."

First, I do not find the formulation of words in the mandate for the Fed to be particularly wellchosen. These words need careful interpretation to be a meaningful mandate for monetary policy. The expression "maximum employment" does not make sense from the point of view of modern monetary macroeconomics. Taken literally, it leads directly down the inflation-bias lane of Kydland, Prescott, Barro, and Gordon. Instead, the Fed prefers to deviate from the words of the Federal Reserve Act by inserting the word "sustainable" before "employment." This insertion allows the interpretation of "maximum employment" as "equilibrium," "natural," or "potential" employment, which is required to make sense of the mandate. This way, the mandate can be said to describe a loss function like the ones above,

although without saying anything about the parameters, except that λ_l is positive.

Second, I do not see that the New Zealand PTA says anything substantially different about the form of the loss function than the (reinterpreted) U.S. Federal Reserve Act. "Avoiding unnecessary instability in output" can certainly be interpreted as "avoiding unnecessary instability in the output *gap*" and be seen as a verbal description of the loss function above. Thus, the PTA says that the λ_y is positive, in addition to specifying the parameter π^* (the latter we can interpret as the midpoint of the target range, that is, 2 percent).²

In conclusion, I do not see that these two mandates are different in a way that makes it meaningful to say that one is dual and the other is hierarchical.

To continue with Larry's paper, his goals for a change in the Fed framework are to improve transparency and accountability and to enhance the effectiveness of monetary policy, without fundamentally altering the basic approach to the conduct of monetary policy under the Greenspan Federal Open Market Committee (FOMC). He goes on to discuss the vision of the Greenspan FOMC and summarizes it in three principles. I believe one could add a fourth principle to these, namely, "Avoid commitment, transparency, and accountability." It seems to me that the vision of the Greenspan FOMC includes maintaining maximum discretion, including maximum discretion about interpreting and reinterpreting the mandate. This is "flexibility," but in a very different-and rather undesirable-sense from the flexibility in flexible targeting.

I believe the world has voted many times on the Greenspan Fed versus inflation targeting. As far as I know, no country has copied the vision of the Greenspan Fed, but many countries have copied the inflation-targeting framework of the RBNZ, the Bank of England, and Sweden's Riksbank. Furthermore, Michael Woodford's (2004) paper for this conference explains clearly and convincingly how commitment and transparency are essential in making more effective the management of expectations, which is at the core of modern monetary policy, and, in particular, how this provides a strong argument for inflation targeting. In my own work, for instance, in Svensson (1999), I have emphasized

² In my review of NZ monetary policy, Svensson (2001), a major issue was whether the RBNZ had conducted monetary policy with the appropriate degree of flexibility, that is, whether it had successfully avoided unnecessary variability of output, interest rates, and the exchange rate. My conclusion was that it had.

that inflation targeting is fundamentally a commitment to sensible monetary policy objectives and to transparency about those objectives. This puts inflation targeting in stark contrast to this fourth principle of the vision of the Greenspan FOMC.

Some have noted that the Fed has become more transparent in recent years. This is true, but most of it seems to consist of somewhat reluctant concessions to outside pressure and the example set by the inflation targeters rather than enthusiastic reforms from within. I suggest that this fourth principle be abandoned.

Larry goes on to discuss the politics of inflation targeting, why to bother about a change in the framework at all, why to do it now, and what the obstacles are. He also discusses the case against inflation targeting.

The case against has most explicitly been laid out by Kohn (2003), with worries about the possible loss of flexibility: "[T]he success of U.S. monetary policy has in large part derived from its ability to adapt to changing conditions—a flexibility that likely has benefited from the absence of an inflation target."³ As far as I can see, the flexibility referred to here is the flexibility to reinterpret the mandate and change the monetary policy objectives. I believe such flexibility is flexibility of the wrong kind. Instead, I believe that all the flexibility we need is the flexibility summarized in the λ above, the weight on stabilization other than that of the inflation gap. I do not see what prevents the Fed from announcing an inflation target and becoming an explicit inflation targeter and, in particular, introducing its own variant of inflation targeting, a high- λ , high-flexibility one. Indeed, nothing prevents the Fed from being an explicit super-flexible inflation targeter, if that is what it wants to be. It may even call itself an "inflationand-output-gap targeter," or an "inflation-and-realeconomy stabilizer," or whatever. The Fed might indeed want to set an example for the world, by being the most flexible inflation targeter in history. What I do not get is what the social benefit is from the Fed being fuzzy about its objectives.⁴

In sum, there is simply no case against inflation targeting for the United States. There is no downside to inflation targeting for advanced countries. This is furthermore demonstrated by the fact that no country has, to my knowledge, had any regrets about adopting inflation targeting. In contrast, the view in these countries seems to be that it is the best monetary policy regime they have ever had.

Larry goes on to discuss a number of practical considerations, with many good and concrete suggestions. He suggests not calling the monetary policy report "Inflation Report," but calling it "Monetary Policy Report" instead. I have no quarrel with this. Indeed, many inflation-targeting central banks call their report something other than "Inflation Report"; the RBNZ calls it "Monetary Policy Statement." The important thing is not the name but that it provides the appropriate information.

In particular, I believe that the report should ideally include forecasts of inflation, output, potential output, and the interest rate, with the appropriate fan charts to indicate the uncertainty in these forecasts. The forecasts should be the best unconditional forecasts; that is, they should be for the optimal interest-rate path, the most likely future interest-rate path. Only then do the forecasts provide the best guide for private-sector expectations, and only then does it make sense to compare the forecasts with ex post outcomes. Furthermore, I believe the forecasts should extend to three years rather than the standard two (the RBNZ and Bank of Norway already have three-year forecasts). It is awkward when the forecasts end at two years, since there is often quite a bit of discussion of the two-year horizon. In most cases, there would not be much specific information about the third year, which implies that in most cases the forecasts for the third year would be flat on target; but it will be reassuring to the general public that there is nothing dramatic lurking beyond the twovear horizon that the central bank is aware of but does not mention. Three-year forecasts would also be more in line with the increasingly frequent reference to "the mid term." In the interest of increased transparency, I would humbly suggest that this term be replaced by "1.5–3 years" or similar, whenever possible.

A recent innovation of the Bank of Norway an enthusiastic newcomer to the inflation-targeting camp that has moved straight into the group of bestpractice inflation targeters (see Svensson et al., 2002)—is to plot the inflation forecast and the output-gap forecast in the same graph (see chart 1 in Norges Bank, 2003). This clearly serves to emphasize that the Bank is concerned with the stability of the real economy as well as with inflation, emphasizing the flexibility in its inflation targeting.

Finally, Larry provides a concrete example of

³ See McCallum (2003) for a strong rebuttal of Kohn's arguments.

⁴ Debelle (2003) provides an interesting description and discussion of the flexible inflation targeting of the Reserve Bank of Australia.

an inflation-targeting proposal for the Fed, with an inflation target of 1.5 percent for the core PCE price index, in line with the proposal of Goodfriend (2003). I hope that a proposal similar to these is adopted soon.

REFERENCES

Debelle, Guy. "The Australian Approach to Inflation Targeting." Working paper, 2003.

Goodfriend, Marvin. "Inflation Targeting in the United States?" in Ben S. Bernanke and Michael Woodford, eds., *The Inflation Targeting Debate*. Chicago: University of Chicago Press (forthcoming); www.nber.org/books/inflation-targeting.

Kohn, Donald L. Comment on M. Goodfriend, "Inflation Targeting in the United States?" in Ben S. Bernanke and Michael Woodford, eds., *The Inflation Targeting Debate*. Chicago: University of Chicago Press (forthcoming); www.nber.org/books/inflation-targeting.

McCallum, Bennett T. "Inflation Targeting for the United States." Working paper, 2003; wpweb2k.gsia.cmu.edu/faculty/mccallum/ITforUS5.pdf.

Meyer, Laurence H. "Practical Problems and Obstacles to Inflation Targeting." Federal Reserve Bank of St. Louis *Review*, July/August 2004, *86*(4), pp. 151-60.

Svensson, Lars E.O. "Inflation Targeting as a Monetary Policy Rule." *Journal of Monetary Economics*, June 1999, *43*(3), pp. 607-54.

Svensson, Lars E.O. "Independent Review of the Operation of Monetary Policy in New Zealand: Report to the Minister of Finance." 2001; www.princeton.edu/~svensson.

Svensson, Lars E.O.; Houg, Kjetil; Haakon, Solheim and Steigum, Erling. "An Independent Review of Monetary Policy and Institutions in Norway." Norges Bank Watch 2002, Centre for Monetary Economics, Norwegian School of Management BI, 2002; www.princeton.edu/~svensson.

Woodford, Michael. "Inflation Targeting: A Theoretical Evaluation." Federal Reserve Bank of St. Louis *Review*, July/August 2004, *86*(4), pp. 15-41.

Norges Bank. Inflation Report 3/2003. 2003; www.norges-bank.no.