Inflation Targeting

by Lars Svensson

Discussion: Athanasios Orphanides

Praise ...

- Very good chapter about the theory of "flexible" inflation targeting.

- Review of optimal control approach to monetary policy.

- Review of linear-quadratic theory, including brief progress report on dealing with uncertainty.

- Historical interpretation of some examples of actual policy practice through the prism of theory presented.

... and Criticism

- The chapter does not talk about inflation targeting, as originally developed and practiced, but only about the particular theoretical framework the author has termed "flexible" inflation targeting.

- In this sense, it unfortunately gives an incomplete view of what is arguably one of the most significant developments in monetary policy practice over the past twenty years.

- For a Handbook chapter, it would be desirable to either:

  - expand the focus to cover inflation targeting (as is suggested by the title) or

  - rename the chapter (e.g. "flexible" inflation targeting) and simply acknowledge in the introduction that it does not cover inflation targeting in general.

Outline of Discussion

- Definition: What is IT?

- History: How did IT come about and why?

- Modelling: How can IT be usefully modelled?

- Practice: What are the key features of IT?

Definition: What is Inflation Targeting?

"Inflation targeting is a framework for monetary policy characterised by the public announcement of official quantitative targets (or target ranges) for the inflation rate over one or more time horizons, and by explicit acknowledgement that low, stable inflation is monetary policy's primary long-run goal."
(Bernanke, Laubach, Mishkin and Posen 1999, p. 4).

- An announced numerical definition of price stability.

- Acknowledgement of primacy of price stability as objective.

- A clear hierarchical mandate (see also Meyer, 2004).

"Flexible" Inflation Targeting?

"[A]ll inflation-targeting central banks ... not only aim at stabilizing infation around the inflation target but also put some weight on stabilizing the real economy ... Thus, the 'target variables' of the central bank include not only inflation but other variables as well, such as the output gap. The objectives under flexible inflation targeting seem well approximated by a quadratic loss function consisting of the sum of the square of inflation deviations from target and a weight times the square of the output gap, and possibly also a weight times the square of policy-rate changes" (p. 1).

- Multiple policy targets include inflation, output gap, etc.

- By symmetry this policy problem could also be called "flexible output-gap targeting" (McCallum and Nelson, 1998).

- More accurate description would be "multiple-goal targeting" (Orphanides, 2009).

History: How did IT Come About and Why?

- Before adopting IT, the RBNZ had multiple goals and terrible outcomes. Price stability was merely *one* of these goals.

- In the words of Don Brash (the RBNZ Governor who first implemented IT):

  "The legislation under which we operated required us, in formulating our advice, to have regard for the inflation rate, employment, growth, motherhood, and a range of other good things" (Brash, 1999, p. 36).

- "Flexible" inflation targeting seems a better description of the regime $prior$ to the introduction of inflation targeting.

- Inflation targeting was introduced to correct the failure of the earlier multiple-goal targeting approach.

Modelling IT: The Focus on Robustness

- Crucial benefit of unique focus on inflation is robustness against imperfect knowledge that makes consistent attainment of multiple objectives (including fine-tuning of real economic activity) untenable in practice.

- Policymakers can be certain that any model presented to them by theorists and policy advisers is misspecified.

- Adoption of IT can be seen as giving up the futile chase for optimality in some particular idealised model in exchange for robustly good outcomes for price stability.

- The focus on price stability reflects the recognition that achieving and maintaining price stability is the best overall contribution monetary policy can make to economic welfare.

How Can IT be Usefully Modelled?

- No single best approach for all purposes.

- Best choice depends on question to be investigated.

- One approach is to characterise IT by a simple policy rule that anchors inflation expectations and delivers good inflation outcomes (e.g. Batini and Haldane, 1999; Orphanides and Williams, 2007). The simplest example is the policy rule based on Wicksell (1898)

$$\Delta i = \theta_\pi(\pi^e - \pi^*)$$

- Another approach is to characterize IT by the choice of policy that achieves the inflation objective at some horizon (e.g. 2 years or so). Subject to that, secondary objectives could be examined (e.g. Smets, 2003).

- Either approach can benefit from comparisons with what the hypothetical optimal monetary policy would be in various assumed models of the economy—checking for robustness.

Modelling "Flexible" Inflation Targeting?

- The chapter promotes optimal monetary policy in a linear-quadratic model.

- Focus of policy implementation is on so-called "targeting" rules: "An *optimal* targeting rule is a first order condition for optimal monetary policy" (p. 24)

- This certainly seems sensible in theory, on the assumption that one need not worry about model misspecification.

- But the chapter does not seriously address key issues regarding known sources of misspecification (e.g. unknown natural rates, flawed output gaps, uncertainty of transmission mechanism, imperfections in expectations formation, etc).

- The advocated approach is antithetical to the robustness rationale for inflation targeting.

Modelling "Flexible" Inflation Targeting?

"It can be described as forecast targeting, that is setting the policy rate (more precisely, deciding on a policy-rate path) such that the forecasts of the target variables conditional on that policy path 'look good,' where 'look good', for instance, means that the inflation forecast approaches the inflation target and the output-gap forecast approaches zero at an appropriate pace" (p. 12-13).

- Multiple-goal targeting essentially places the output gap concept on par with inflation as a policy objective.

- This is antithetical to the focus of inflation targeting on inflation.

- As a policy framework, this better describes earlier approaches to policy (pre-IT) that are now recognised to have been problematic.

A Historical Example from the 1970s

(Based on Orphanides, 2007.)

- Policy in the early 1970s has been characterised as aiming to keep the economy on the "optimum feasible path" (Stein, 1984).

- This was meant to close the output gap without compromising price stability.

- Suppose policymakers at the Federal Reserve attempted to implement "flexible" inflation targeting as described in the chapter, that is set policy on the basis of forecasts of the "output gap" and "inflation gap" that "looked good."

- Would such procedures have resulted in good economic outcomes?

- Compare that to the counterfactual policy of inflation targeting, as originally developed and practiced.
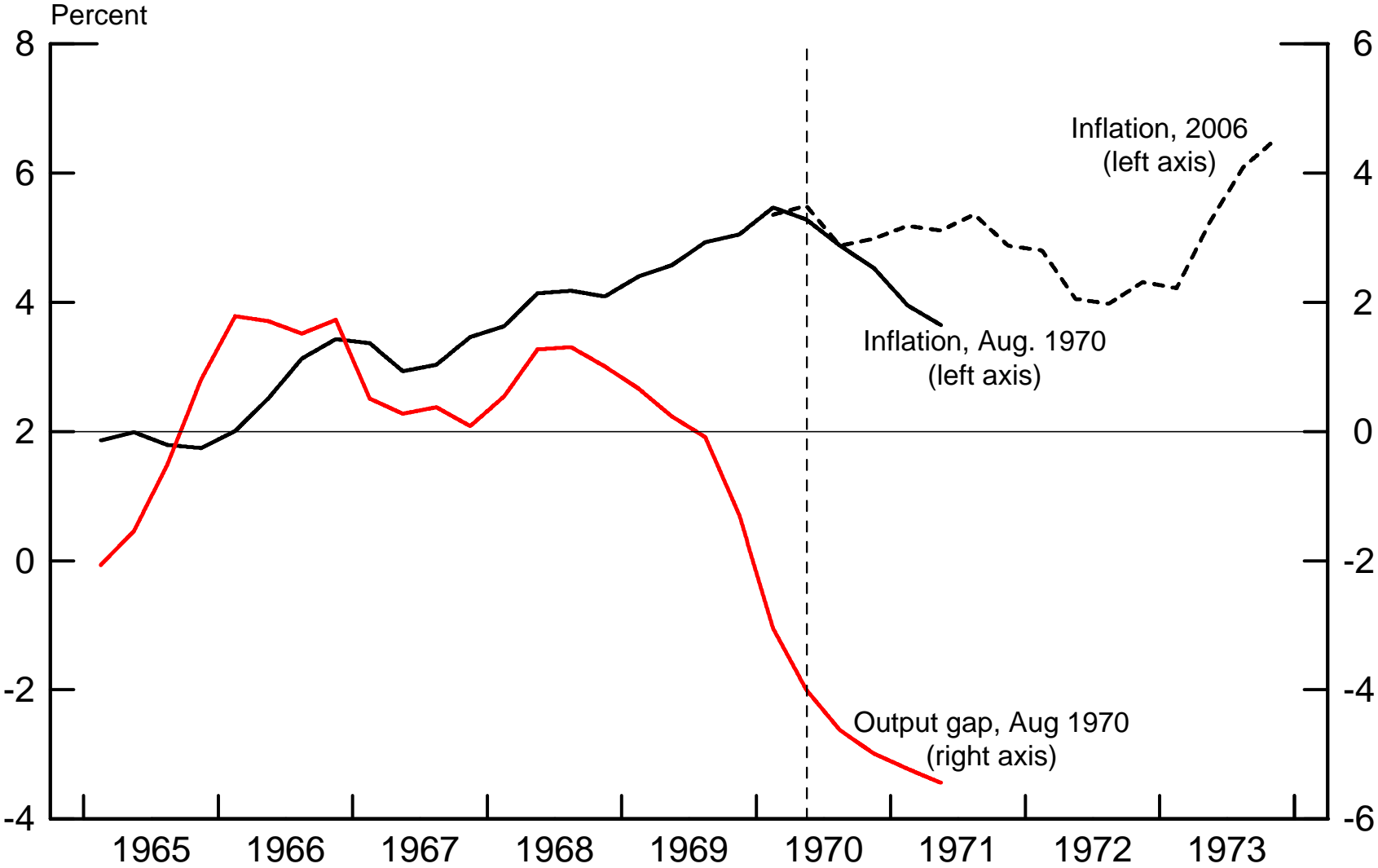
Inflation and Output Gap for the US Economy: August 1970

Percent

Inflation
(left axis)

Output gap
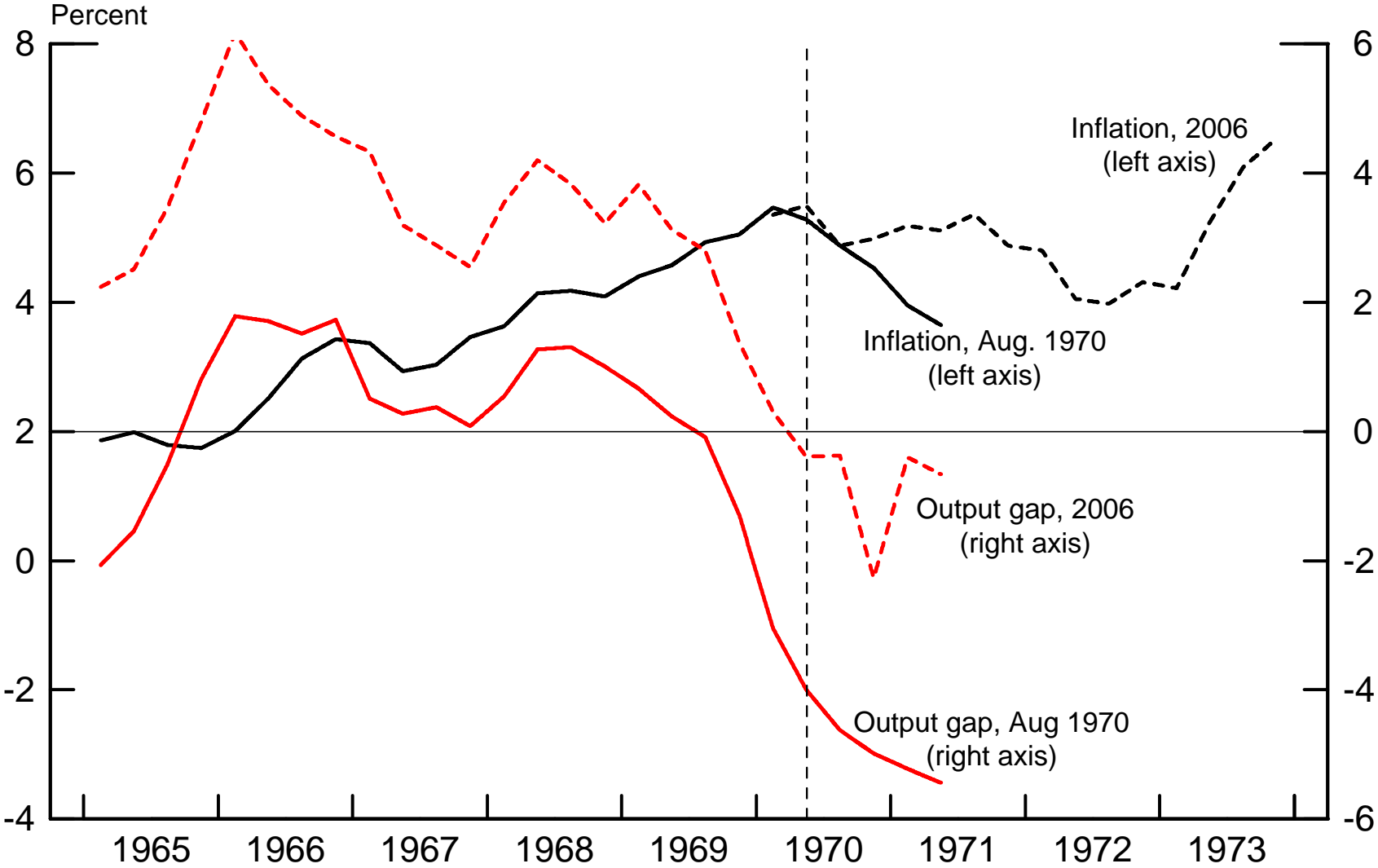(right axis)

FRB staff projections

13
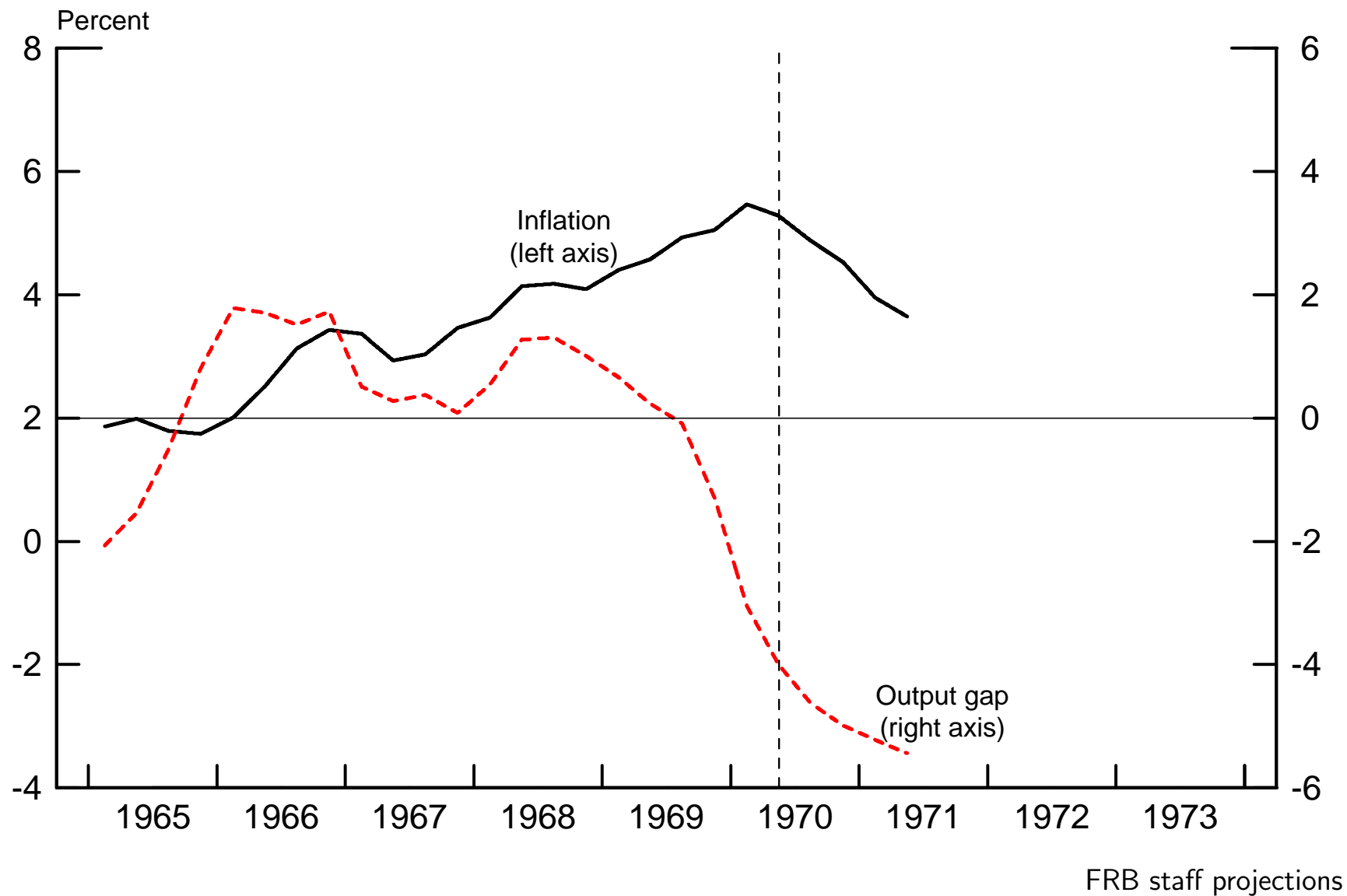
FRB in 1970

- Under inflation targeting, policymakers would have recognised that progress on inflation was insufficiently slow and should have tightened policy.

- In the event, real-side analysis suggested that with output being below potential inflation would gradually fall.

- Output-gap-based "optimal policy" suggested easier monetary policy was needed to ensure that the output gap forecast would also "look good."

- Inflation would remain away from target over policy relevant horizon but for a "flexible" policymaker (not one practicing IT) it would suffice that inflation was on the right track.

- In the event, policy was eased.

Inflation and Output Gap for the US Economy

Percent

Inflation, 2006 (left axis)

Inflation, Aug. 1970 (left axis)

Output gap, Aug 1970 (right axis)

Inflation and Output Gap for the US Economy

Percent

Inflation, 2006
(left axis)

Inflation, Aug. 1970
(left axis)

Output gap, 2006
(right axis)

Output gap, Aug 1970
(right axis)

1965 1966 1967 1968 1969 1970 1971 1972 1973

Practice: What are the Key Features of IT?

- Focus on a a hierarchical objective of keeping inflation in line with a numerical inflation target over the medium run, insulates policymakers from the false promises of "better" macroeconomic outcomes suggested by optimal control exercises performed on oversimplified models.

- This does not imply policymakers are inflation nutters. Subject to achieving the inflation target, inflation targeting can allow for considerable flexibility. IT is not a "rule" but a policy framework allowing "constrained discretion" (Bernanke and Mishkin, 1997).

- A forward-looking policy orientation and focus on inflation staying around the numerical definition of price stability facilitates better anchoring of inflation expectations and yields additional policy flexibility (Orphanides and Williams, 2005).

Simplicity and IT Practice

- IT implementation does not require fancy modelling.

- IT permits simplicity in policy formulation, monitoring and communication (Mishkin's, 2002, KISS principle—"Keep It Simple Stupid").

- In terms of communication, the two crucial elements are the definition of the inflation target and regular assessments of the outlook for inflation explaining how the target is achieved.

- Additional communication (for example about output gap projections) is not necessarily an improvement and could be counterproductive (e.g. Mishkin, 2004; Blinder, 2008; Dale, Orphanides and Osterholm, 2008).

Inflation Targeting Success

- IT is arguably the most significant development in monetary policy practice in the last twenty years.

- IT has succeeded in helping the central banks that have adopted it to embrace and maintain good policy practices.

- Other frameworks (e.g. FRB and ECB) have also been successful but IT may have been particularly helpful for central banks with challenged credibility.

References

Batini, Nicoletta and Andrew Haldane (1999) "Forward-looking rules for monetary policy" in J. B. Taylor (ed) *Monetary Policy Rules*, Chicago: University of Chicago Press.

Bernanke, Ben and Frederic Mishkin (1997) "Inflation targeting: A new framework for monetary policy?" *Journal of Econominc Perspectives* 11(2), Spring, pp. 97-116.

Bernanke, Ben, Thomas Laubach, Frederic Mishkin and Adam Posen (1999) *Inflation Targeting: Lessons from the International Experience*, Princeton N.J.: Princeton University Press.

Blinder, Alan (2008) "Talking about monetary policy: the virtues (and vices?) of central bank communication", presented at the seventh BIS annual conference, Lucerne, Switzerland, 26-27 June.

Brash, Donald (1999) "Inflation targeting: an alternative way of achieving price stability", address on the occasion of the 50th anniversary of central banking in the Philippines, Manila, 5 January.

Dale, Spencer, Athanasios Orphanides and Par Osterholm (2008) "Imperfect central bank communication: information versus distraction", Central Bank of Cyprus Working Paper 2008-1.

McCallum, Bennett and Edward Nelson (1998) "Nominal income targeting in an open economy optimizing model" NBER Working Paper 6675.

Meyer, Laurence (2004) "Practical problems and obstacles to inflation targeting", *Federal Reserve Bank of St Louis Review* 86(4), July/August, pp. 151-160.

Mishkin, Frederick (2002) "The role of output stabilization in the conduct of monetary policy," NBER Working Paper 9291.

Mishkin, Frederick (2004) "Can central bank transparency go too far," NBER Working Paper 10829.

Orphanides, Athanasios (2007) "Comment on 'What have economists learned about monetary policy over the past 50 years?' by Lars Svensson" at the conference marking the 50th anniversary of the Bundesbank, Frankfurt, 21 September.

Orphanides, Athanasios (2009) "Reflections on inflation targeting," address at the 6th Norges Bank monetary policy conference on inflation targeting twenty years on, Oslo, 11 June.

Orphanides, Athanasios and John C. Williams (2005) "Imperfect knowledge, inflation expectations, and monetary policy" in B. S. Bernanke and M. Woodford (eds) *The inflation-targeting debate*, Chicago: University of Chicago Press.

Orphanides, Athanasios and John C. Williams (2007) "Inflation targeting under imperfect knowledge" in F. Mishkin and K. Schmidt-Hebbel (eds) *Monetary policy under inflation targeting*, Santiago: Central Bank of Chile.

Smets, Frank (2003) "Maintaining price stability: how long is the medium term", *Journal of Monetary Economics* 50(6), September, pp. 1293-1309.

Stein, Herbert (1984) *Presidential Economics*, New York: Simon and Schuster.

Wicksell, Knut (1898) *Interest and Prices*, London, Macmillan for the Royal Economic Society, (translated by Richard Kahn), 1936.