

## Optimal Monetary Policy with Staggered Wage and Price Contracts\*

Christopher J. Erceg\*\*, Dale W. Henderson\*\*\* and Andrew T. Levin\*\*\*\*

### Abstract

We formulate an optimizing-agent model in which both labor and product markets exhibit monopolistic competition and staggered nominal contracts. The unconditional expectation of average household utility can be expressed in terms of the unconditional variances of the output gap, price inflation, and wage inflation. Monetary policy cannot achieve the Pareto-optimal equilibrium that would occur under completely flexible wages and prices; that is, the model exhibits a tradeoff in stabilizing the output gap, price inflation, and wage inflation. We characterize the optimal policy rule for reasonable calibrations of the model. We also find that strict price inflation targeting generates relatively large welfare losses, whereas several other simple policy rules perform nearly as well as the optimal rule.

*Keywords:* Monetary policy; Inflation targeting; Nominal wage and price rigidity; Staggered contracts

*JEL classification:* E31; E32; E52

---

\* First printed in *Journal of Monetary Economics*, Vol. 46 (2000), pp. 281–313 (published by Elsevier)

\*\* Prof. Dr. Christopher J. Erceg, National Bureau of Economic Research, Federal Reserve Board, 1050 Massachusetts Ave, Cambridge, MA 02138, USA. Email: Christopher.Erceg@frb.gov

\*\*\* Prof. Dr. Dale W. Henderson, Georgetown University, General Economics, 3700 O St NW, Washington, DC 20057, USA. Email: dale.henderson@rcn.com

\*\*\*\* Prof. Dr. Andrew T. Levin, Dartmouth College, Department of Economics, 322 Rockefeller Hall, Hanover, NH 03755–3514, USA. Email: andrew.t.levin@dartmouth.edu

We appreciate comments and suggestions received from Robert Barsky, Susanto Basu, Lawrence Christiano, Martin Eichenbaum, Jon Faust, Stefan Gerlach, Marvin Goodfriend, Michael Kiley, Jinill Kim, Miles Kimball, Robert King, Matthew Shapiro, Lars Svensson, John Taylor, Peter von zur Muehlen, Alex Wolman, and an anonymous referee, and outstanding research assistance from Carolina Marquez. We are particularly indebted to Michael Woodford, whose joint work with Julio Rotemberg provided the foundations for our analysis, and whose comments and assistance have been invaluable. The views in this paper are solely the responsibility of the authors and should not be interpreted as reflecting the views of the Board of Governors of the Federal Reserve System or of any other person associated with the Federal Reserve System.