The Fed's monetary policy rule and U.S. inflation: The case of asymmetric preferences

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Abstract

This paper investigates the empirical relevance of a new framework for monetary policy analysis in which the decision makers are allowed, but not required, to weight differently positive and negative deviations of inflation and output from the target values. The estimates of the central bank's Euler equation indicate that the preferences of the Fed had been asymmetric only before 1979, with the interest rate response to output contractions being larger than the response to output expansions of the same magnitude. We show that this asymmetry on output implied an *average inflation bias* around 1.5%. While the implicit inflation target also declined, the asymmetric preferences induced inflation bias appears to account for a sizable fraction of the historical decline in the inflation mean.
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1. Introduction

A popular method of monetary model building is to regard policy interventions as the solution of an optimal control problem in which the central bank minimizes

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some quadratic criterion subject to a linear structure of the economy. The quadratic characteristic of the objective and the linear feature of the constraints give rise to a linear first-order condition, usually referred to as a targeting rule (see Svensson, 1999), which describes the optimal response of the central bank to the developments in the economy. While the quadratic specification implies that the monetary authorities weight evenly positive and negative deviations of inflation and output from the target values, such modeling choice had been questioned by several practitioners at the policy committees of various central banks on the ground that it has little justification beyond analytical tractability.[1]

Blinder (1997, p. 6) argues that '*academic macroeconomists tend to use quadratic loss functions for reason of mathematical convenience, without thinking much about their substantive implications. The assumption is not innocuous*, […] *practical central bankers and academics would benefit from more serious thinking about the functional form of the loss function*'. Describing his experience as Fed Vice-Chairman, Blinder (1998, pp. 19–20) pushes the argument even further and claims '*in most situations the central bank will take far more political heat when it tightens pre-emptively to avoid higher inflation than when it eases pre-emptively to avoid higher unemployment*', suggesting that political pressures can induce asymmetric central bank interventions. Similar concerns emerge also at other central banks like the ECB and on the occasion of an interest rate cut of 50 basis point Duisenberg (2001) states '*the maintenance of price stability remains our first priority*. […] *today's action could be taken "without prejudice to price stability"*', *and it thereby supported the other goals of EMU, such as economic growth*'.

On the theoretical side, a number of recent studies explore some novel mechanisms through which the costs of the business cycle can be asymmetric. Persson and Tabellini (1999) combine retrospective voting with imperfect information about the incumbent's talent to show that career concerned politicians can make reappointment more likely by endowing the central bank with an asymmetric objective that requires a larger monetary policy response in periods of poor economic performance. Galí et al. (2003a) construct a theoretical measure of welfare gap based on price and wage markups, and find that the costs of output fluctuations for the U.S. had historically been large and asymmetric. Erosa and Ventura (2002) introduce transaction costs and heterogeneity in portfolio holdings in an otherwise neo-classical model and show that these frictions can make the costs of inflation variation asymmetric. Lastly, the psychology of choice reveals that people tend to place a greater weight on the prospect of losses than on the prospect of gains in decision making under uncertainty (see Kahneman and Tversky, 1979), also suggesting that policy makers, who aggregate over individual welfare, may be loss-averse.

On the empirical side, only a few studies, developed independently, estimate asymmetric reaction functions. Cukierman and Muscatelli (2003) and Martin and Milas (2004) show some international evidence supporting the notion of nonlinear

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[1]Notable exceptions include Rotemberg and Woodford (1999) and Woodford (2003, Chapter 6), who show that the quadratic form can be obtained as a second-order approximation of the representative agent's utility.