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Economics Letters 93 (2006) 367–373
economics letters
www.elsevier.com/locate/econbase

Might a conservative central banker reduce employment variability?

Jonathan G. James, Phillip Lawler *

University of Wales Swansea, United Kingdom

Received 21 June 2005; received in revised form 26 May 2006; accepted 27 June 2006
Available online 11 October 2006

Abstract

This note identifies circumstances under which increased inflation aversion by the central bank can, contrary to the conventional wisdom, reduce employment variability. This result reflects three key features of the model developed: a monopolistically competitive goods market; strategic wage setting by non-atomistic unions; partial anticipation of shocks by unions.

Keywords: Central banker; Union wage setting; Employment variability

JEL classification: E58; J51

1. Introduction

A key feature of Rogoff's (1985) highly influential model of central bank independence is its inherent trade-off between flexibility and credibility. A central bank with a higher degree of inflation-aversion than society (that is, a 'conservative' central bank) is able to achieve a reduction in the mean inflation rate, but at the expense of a sub-optimal degree of stabilization of output and employment following real disturbances. This implication of Rogoff's framework has been the subject of considerable scrutiny at

* Corresponding author. Department of Economics, University of Wales Swansea, Singleton Park, Swansea SA2 8PP, United Kingdom. Fax: +44 1792 295 872.
E-mail address: p.lawler@swan.ac.uk (P. Lawler).

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doi:10.1016/j.econlet.2006.06.012

both the theoretical (e.g. McCallum, 1995) and empirical (e.g. Alesina and Summers, 1993) levels, and the purpose of this note is to provide a further consideration of the issue. Specifically, it identifies circumstances under which increased inflation-aversion on the part of the central bank may actually reduce employment variability.

Underpinning this result are three key features of the model presented below. First, the product market is characterized by monopolistic competition; second, wages are set by a finite number of non-atomistic unions, each of which is averse to instability in both employment and the real wage; third, shocks are partly anticipated by wage setters. The framework is closely related to those developed in a number of recent analyses of strategic interaction between union wage setting and monetary policy, e.g. Cukierman and Lippi (1999), Coricelli et al. (2006) and Holden (2005). However in each of these papers stochastic shocks are absent and, consequently, the impact of the monetary regime on employment variability, as opposed to the mean level of employment, is not considered.

2. The model

The basic building blocks of the model are provided by the following equations, specified in logarithmic form:

$$y_i^s = \alpha l_i + \theta, \qquad 0 < \alpha < 1 \tag{1}$$

$$y_i - y = -\varepsilon(p_i - p), \quad 1 < \varepsilon, y = \int_{i=0}^{1} y_i \mathrm{d}i, p = \int_{i=0}^{1} p_i \mathrm{d}i \tag{2}$$

$$y = \phi(m - p) \tag{3}$$

$$l_j^s = 0 \tag{4}$$

$$l_{jt}^d = \int_{(j-1)/n}^{j/n} l_{it}^d \mathrm{d}i \Big/ \int_{(j-1)/n}^{j/n} \mathrm{d}i \tag{5}$$

$$\Omega_j = l_j^2 + \gamma(w_j - p)^2 \tag{6}$$

$$\Gamma = l^2 + \lambda\pi^2 \qquad l = \int_{i=0}^{1} l_i \mathrm{d}i = \frac{1}{n}\sum_{j=1}^{n} l_j \tag{7}$$

There is a continuum of monopolistically competitive firms, indexed by i, and uniformly distributed over the unit interval. Each shares a common production technology described by (1), where y_i^s and l_i represent firm i's output and labor input respectively, while $\theta \sim N(0,\sigma_\theta^2)$ is a stochastic productivity shock identical across firms. Eq. (2) identifies the demand for firm i's output, y_i, as a proportion of aggregate demand, y, to be a function of its price, p_i, relative to the aggregate price level, p. The parameter ε represents the relative price elasticity of product demand, and the limiting case which arises as $\varepsilon \to \infty$ corresponds to a perfectly competitive goods market: more generally, ε can be taken as an indicator of the