NORTH-HOLLAND

International Review of Economics and Finance
11 (2002) 229–249

International Review of Economics & Finance

Targeting nominal income versus targeting price level: A target zone perspective

Chung-rou Fang[a,*], Ching-chong Lai[b]

[a]Department of Economics, National Cheng-Chi University, Taipei 116, Taiwan, ROC
[b]Sun Yat-Sen Institute for Social Sciences and Philosophy, Academia Sinica, Taiwan, ROC

Received 16 March 2000; received in revised form 28 April 2001; accepted 13 June 2001

Abstract

Based on a simple stochastic macro model, this paper first addresses the relative stabilizing performance between targeting nominal income and targeting money supply from the viewpoint of target zones. Similar to the conclusion found in Bean [Econ. J. 93 (1983) 803.] and in West [Econ. J. 96 (1986) 1077.], upon the shock of a change in commodity production, the elasticity of aggregate demand to real money balances is the crucial factor for the desirability of targeting nominal income. Second, comparing nominal income with price target zones, we find that, with the plausible parameter values, a price target zone policy is a better strategy for price stabilization. However, a nominal income target zone policy will be the better choice for output stabilization. © 2002 Elsevier Science Inc. All rights reserved.

JEL classification: F31; E52

Keywords: Nominal income targeting; Price targeting; Stochastic processes; Target zones

1. Introduction

Ever since Poole (1970) published his pioneering paper, there has been a substantial amount of literature concerning the issue of intermediate monetary target choices. Following

* Corresponding author. Tel.: +886-229-387-066; fax: +886-229-390-344.
E-mail address: crfang@nccu.edu.tw (C. Fang).

PII: S1059-0560(02)00100-4

Poole, early studies such as Benavie and Froyen (1983) and Turnovsky (1975, 1980) focused on the debate that the monetary authority should choose either a pegged monetary stock or a pegged interest rate as its policy rule. In recent years, two Nobel laureates, Meade (1978) and Tobin (1980), have advocated nominal income as an alternative target for monetary policy. As explained by Asako and Wagner (1992), the simplest reason is that targeting nominal income is one step closer to the ultimate goal of the stabilization of real economic activity.[1]

Bean (1983) first develops a simple macro model to deal with the advantage of nominal income targeting. Given that the welfare loss is measured by the discrepancy between actual output and "full-information" output (i.e., long-run equilibrium output), some important findings emerge in his analysis. Bean argues that the nominal income rule is always superior to the money supply rule in the face of aggregate demand disturbances. However, with respect to aggregate supply disturbances, nominal income targeting is again superior to money supply targeting when the aggregate demand's elasticity with respect to real money balances is *less* than unity.

A number of papers provide alternative viewpoints on the validity of Bean's (1983) favored proposal for nominal income targeting. In the literature, West (1986) alternatively defines the welfare loss that is associated with the discrepancy between actual and expected output. With this amendment, he finds that, when the economy experiences aggregate supply shocks, nominal income targeting is preferable to money supply targeting if the elasticity of aggregate demand with respect to real money balances is *greater* than unity. McCallum (1987) proposes that nominal income targeting is a possible solution to the time inconsistency problem. Brandley and Jansen (1989) consider the mechanism of nominal wage contracts indexed to the price level. They conclude that the output can be stabilized perfectly with the combination of nominal income targeting and optimal wage indexation in the presence of aggregate supply disturbances. Jansen and Kim (1993) introduce both intertemporal and wealth effects of labor supply into the theoretical structure, finding that nominal income targeting coupled with optimal wage indexing is no longer perfectly stabilizing. McCallum and Nelson (1999) present a simulation analysis regarding the performance of nominal income targeting. In calibrating US quarterly data, their results suggest that, in comparison with other targeting strategies, nominal income targeting exhibits better performance.[2]

In line with these studies, this paper constructs a simple stochastic macro model and uses it to evaluate whether Bean's (1983) favored belief of nominal income targeting is valid. However, as stressed by Kahn (1988), in reality the members of the Federal Open Market Committee and the presidents of the Reserve Bank all target nominal income in a specific *zone*, rather than a specific *level*. This paper thus departs from existing literature to examine the desirability of nominal income targeting from the perspective of target zones.[3] Running in

[1] For the other rationale in advocating nominal income targeting, see Kahn (1988).

[2] Other studies on this issue include Aizenman and Frenkel (1986a, 1986b), Ball (1997), Frankel and Chinn (1995), Koenig (1996), McCallum (1997), and Ratti (1997), to name a few.

[3] For the implementation of the ranges for nominal income targeting, see Kahn (1988, pp. 33–35 and footnote 24).