The productivity gap: Monetary policy, the subprime boom, and the post-2001 productivity surge

George Selgin [a], David Beckworth [b,*], Berrak Bahadir [c]

[a] Center for Monetary and Financial Alternatives, Cato Institute, 1000 Massachusetts Ave, NW, Washington, DC, 2001, USA
[b] Western Kentucky University, 1906 Colelge Heights Boulevard #11059, Bowling Green, 42101, KY, USA
[c] Özyeğin University, Çekmeköy Campus, Turkey

Abstract

It is widely believed that, in the wake of the dot.com crash, the Fed kept the federal funds target rate too low for too long, inadvertently contributing to the subprime boom. We attribute this and other Fed departures from a "neutral" policy stance to the Fed's failure to respond appropriately to exceptional rates of total factor productivity growth. We then show how the Fed, by adhering to a nominal GDP growth rate target, might have succeeded in maintaining such a neutral stance.
© 2015 Society for Policy Modeling. Published by Elsevier Inc. All rights reserved.

1. Introduction

Several authorities (e.g. Ahrend, Cournède, & Price, 2008; Lombardi & Sgherri, 2007; Taylor, 2009; Iacoviello & Stefano, 2010) have argued that the housing boom of 2002–2007 was encouraged by the Fed's monetary policy stance in the wake of the 2001 dot.com crash. That stance

* Corresponding author. Tel.: +1 2707454228.
  E-mail addresses: gselgin@cato.org (G. Selgin), david.beckworth@wku.edu (D. Beckworth),
berrak.bahadir@ozyegin.edu.tr (B. Bahadir).

involved setting the federa l funds rate target at levels that proved, in retrospect, too low. According to this view, the boom would have been less pronounced, and the consequent bust less severe, had the Fed's stance been less accommodative.

Such claims raise the question, what caused the FOMC to select a path for the federal funds rate that appears to have contributed to a housing-market bubble? What caused it to conclude that, in setting its targets as it did, it was merely helping to achieve a "soft landing" from the 2001 crash, and not setting the stage for a further and ultimately more serious round of boom and bust? Might the cause, whatever it was, also have played a part in past cycles?

We trace the Fed's unintentional contribution to the business cycle to its failure to respond appropriately to persistent changes in the growth rate of total factor productivity. In particular, we argue that, when that growth rate surged following the dot.com crash, the Fed responded, not by adjusting its federal funds rate upwards as theory suggests it ought to have done, but by treating the surge as allowing it to maintain an exceptionally low federal funds rate without risking the rise in inflation that such a low rate would otherwise have entailed. Finally, we show that the Fed might have maintained an approximately neutral stance by adhering to a nominal GDP growth rate rule.

2. Monetary policy and productivity

Monetary policy in the U.S. has long been based on targeting the federal funds rate. Responsibility for setting the target falls on the FOMC. One way of understanding the challenge facing the FOMC, originating with Wicksell, is as that of achieving a "neutral" monetary policy stance, meaning one that minimizes the Fed's contribution to either booms or busts (Bernhardsen & Gerdrup, 2007), where the funds rate consistent with such a stance is the "neutral" or "natural" rate of interest.

Were the real neutral federal funds rate directly observable, implementing a neutral monetary policy would be simple. But because that rate is neither observable nor readily estimated, the Fed instead adjusts its target in response to other, directly observable variables, including the rates of inflation and unemployment, changes in which at best supply only a rough indication of discrepancies between targeted and natural interest rates.

Although the neutral federal funds rate isn't observable, the basic determinants of that rate are uncontroversial, being implied by many standard economic models. Consider for example a simple growth model in which a representative household's lifetime utility is given by

$$\max \quad E_0 \sum_{t=o}^{\infty} (\beta)^t \frac{(C_t/N_t)^{1-\sigma}}{1-\sigma} \tag{1}$$

where, $0 < \beta < 1$ is the household's discount factor and σ is a risk aversion parameter.

The economy's periodic flow of funds is given by

$$K_{t+1} = Y_t - C_t + (1-\delta) K_t \tag{2}$$

where, K is capital and δ is the rate of depreciation. Annual production, Y_t, is given by

$$Y_t = A_t K_t^{\mu} N_t^{(1-\mu)}$$

where, N_t is labor input, which grows at rate n, and A_t is technological progress, which grows at rate g.