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Using a long-term interest rate as the monetary policy instrument ☆

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Abstract

Using a short-term interest rate as the monetary policy instrument can be problematic near its zero bound constraint. An alternative strategy is to use a long-term interest rate as the policy instrument. We find when Taylor-type policy rules are used by the central bank to set the long rate in a standard New Keynesian model, indeterminacy—that is, multiple rational expectations equilibria—may often result. However, a policy rule with a long-rate policy instrument that responds in a "forward-looking" fashion to inflation expectations can avoid the problem of indeterminacy.

JEL classification: D83; D84; E32; E43; E52

Keywords: Liquidity trap; Yield curve; Zero bound; E-stability; Indeterminacy; Learning

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> [Fed Chairman] Greenspan assured the congressional Joint Economic Committee that even with the Fed's key economic policy lever, the federal funds rate, at a 41-year low of 1.25 percent, the central bank has other resources to influence interest rates to jump-start economic growth. He said that in addition to pushing the funds rate, the interest that banks charge each other on overnight loans, closer to zero, the Fed can simply begin buying longer-term Treasury securities to drive longer-term interest rates lower.
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> Associated Press Newswires, May 21, 2003

1. Introduction

Over the past decade, inflation rates in many countries have fallen to levels not much above zero. This long-sought return to price stability should provide significant benefits in terms of enhanced economic efficiency and performance; however, as noted early on by Summers (1991), low inflation rates may also make it harder for central banks to achieve their macroeconomic stabilization goals. Specifically, as inflation has declined, short-term nominal interest rates, which are the usual instrument of monetary policy, also have fallen and have closed in on, or even run up against, their lower bound of zero, likely limiting the extent to which real interest rates can be lowered. This constraint may diminish the ability of a central bank to stimulate the economy and offset adverse macroeconomic shocks through the usual policy transmission mechanism of lower real rates (see Reifschneider and Williams, 2000 and Clouse et al., 2003).

This long-standing theoretical concern about the so-called liquidity trap has been given a visceral immediacy by the example of Japan, which spent more than a decade mired in economic stagnation and deflation. In trying to stimulate the Japanese economy, the Bank of Japan came up against the zero bound when it lowered its policy rate (the overnight call rate) to zero in February 1999, and further policy stimulus via lower short rates was clearly impossible. Japan's predicament generated much discussion about the nature of the zero bound constraint and its importance in hindering macroeconomic stabilization. In response, many researchers have proposed using a variety of alternative monetary policy strategies and policy instruments other than the short rate—such as the monetary base, a long-term interest rate, or the exchange rate—to provide increased stimulus in such a situation (notably, Krugman, 1998; Meltzer, 2001; Svensson, 2001; McCallum, 2002; Okina and Shiratsuka, 2004).

These alternative monetary policy proposals have also been discussed for the U.S. economy. As illustrated by the press coverage of Chairman Greenspan's testimony above, faced with sluggish real growth in 2003 and inflation and short-term interest rates at historic lows, the Federal Reserve also studied various strategies to stimulate the economy if short rates fell to their lower bound (e.g., Bernanke and Reinhart, 2004). A common thread in these alternative policy strategies to stimulate the economy is their reliance on influencing the public's expectations of future policy