



The bond rate and estimated monetary policy rules

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Received 25 June 1999; received in revised form 17 May 2000; accepted 23 May 2000

Abstract

Monetary policy rules recently estimated in Taylor (1998) and Clarida, Gali, and Gertler (1998) indicate that the funds rate target has been much more responsive to actual or expected inflation in the post-1979 period than in the pre-1979 period. This paper presents evidence that indicates a possible reason for this is that in the post-1979 period the Fed reacted to long-term inflationary expectations as reflected in the behavior of the long-term bond rate. One may surmise this preemptive nature of Fed policy explains the good macroeconomic performance of the U.S. economy since 1979. © 2001 Elsevier Science Inc. All rights reserved.

JEL classification: E52, E58

Keywords: Forward-looking; Taylor rule; Credibility

1. Introduction

The period since 1979 is considered by many one of good macroeconomic performance. During this period, inflation trended downward and remained low. Both inflation and real output have much smaller fluctuations than before. This performance has sparked interest in identifying the nature of actual policy pursued by the Federal Reserve and using the estimated policy reaction function to determine characteristics of a good monetary policy rule.¹

Taylor (1993), focusing on the period 1987 to 1992, argues that U.S. interest rate policy is well described by the policy rule in which the funds rate responds to actual inflation and

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the output gap. He attributes the good macroeconomic performance of this period to the fact that the Fed responded aggressively to actual inflation. He claims macroeconomic performance deteriorated in those periods of U.S. monetary policy when the Fed did not respond as aggressively to inflation as it did during the period 1987 to 1992 (Taylor 1998).

Clarida, Gali, and Gertler (1998), hereafter referred to as CGG, estimate the forward-looking versions of the policy rule in Taylor (1993). They claim that actual Fed policy over the longer U.S. period 1960 to 1997 is well described by the policy rule in which the funds rate responds to expected, not actual, inflation and the output gap. They find that the funds rate has been much more sensitive to expected inflation in the post-1979 period than in the pre-1979 period. They also find that in the policy rule estimated over the post-1979 period the coefficient that appears on the measure of the output gap is not statistically different from zero, leading them to claim that in the post-1979 period the Fed has effectively pursued a “pure inflation targeting” policy.² They argue such Fed behavior is responsible for the good macroeconomic performance of the U.S. economy since 1979.³

This paper provides additional evidence on the nature of Fed policy. In particular, I examine the influence of long-term inflationary expectations on policy. The policy rule estimated in Taylor (1993, 1998) is backward-looking in that the Fed responds to actual inflation and the output gap. In CGG (1998), however, the estimated rule is forward-looking. In the empirical work, the forward-looking behavior is captured including one- to four-quarter ahead expected values of inflation and the output gap. However, this leaves open the possibility that the Fed may be concerned with longer-term expected inflation. Goodfriend (1993) has convincingly argued that in order to establish and maintain credibility for commitment to low inflation, the Fed in the post-1979 period reacted to increases in long-term inflationary expectations evidenced by the behavior of the long-term bond rate. I formally test this hypothesis by examining whether the bond rate enters significantly in these estimated monetary policy rules.⁴

Another key feature of the policy rules estimated in Taylor (1998) and CGG (1998) is that the Fed raises the funds rate if actual output or unemployment is above its potential. In CGG potential output or unemployment is estimated with a deterministic time trend, whereas in Taylor it is estimated with a stochastic trend. In this paper I examine whether estimated policy rules are sensitive to the choice of the detrending procedure used to generate the Fed’s estimate of trend output.

The empirical work that is presented here suggests the following observations. First, the bond rate enters with an expected, positive coefficient when included in Taylor-type policy rules estimated over the post-1979 period. Without the bond rate these estimated monetary policy rules do not explain several episodes of increases in the funds rate target that occurred during the 80s. Those episodes coincide with the inflation scares identified in Goodfriend (1993). This result implies that the Fed in the post-1979 period built credibility for commitment to low inflation by reacting to long-term inflationary expectations. Second, some of the policy differences found across pre- and post-1979 sample periods are sensitive to the Fed’s estimate of potential output and whether or not we consider the role of the bond rate. Two such differences are worth noting. The result that the funds rate target has been much more responsive to actual or near-term expected inflation in the post-1979 period than in the pre-1979 period arises because these policy rules ignores the behavior of the bond rate. Once

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