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The Fed and short-term rates: Is it open market operations, open mouth operations or interest rate smoothing?

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Abstract

It is widely believed that the Fed controls the federal funds rate by altering the degree of pressure in the reserve market through open market operations when it changes its target for the funds rate. Recently, however, several analysts have suggested that the Fed need not conduct open market operations to change the funds rate. Rather, they argue it is sufficient that the Fed indicate its desire for the funds rate. This paper notes that there is yet a third alternative, the interest-rate-smoothing hypothesis, that suggests that the Fed does not move rates per se but, rather, smooths the transition of rates to the new equilibrium required by economic shocks. This paper tests the open market and open mouth alternatives using a methodology first used by Cook and Hahn [*Journal of Monetary Economics* (1989a) 331]. Finding no evidence that either open market operations or open mouth operations can account for the close relationship between the funds rate and the funds rate target, a variety of evidence consistent with the interest-rate-smoothing hypothesis is considered. The results suggest that many changes in the Fed's funds rate target are an endogenous response to economic events and suggest that an alternative way to identify exogenous changes in policy is to identify exogenous changes in the Fed's funds rate target.

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> "Facts are stubborn things; and whatever may be our wishes, our inclinations, or the dictates of our passions, they cannot alter the state of facts and evidence." John Adams

1. Introduction

During much of its history, the Federal Reserve has implemented monetary policy by targeting short-term interest rates – since the mid-1970s, the federal funds rate. [1] The conventional view, which I call the *open market hypothesis*, is that the Fed affects short-term interest rates though open market operations. The Fed puts upward pressure on interest rates by reducing the supply of reserves through an open market sale and reduces interest rates by purchasing securities. The effect of these operations is initially reflected in the federal funds rate and subsequently in other short-term interest rates.

A number of analysts have recently suggested that open market operations may not be essential to moving short-term interest rates. Following up on an observation by McCallum (1995), Guthrie and Wright (2000) and Taylor (2001) develop models where private agents drive the interbank rate to the level desired by the monetary authority. Guthrie and Wright suggest that such *open mouth operations* might "explain the difficulties in substantiating liquidity effects in empirical work." [2] The open mouth hypothesis has also been suggested by Meulendyke (1998) and Hanes (1998), who argue that since it began announcing target changes in 1994, the Fed has not needed to use open market operations to move the federal funds rate.

Taylor (2001) notes, however, that open mouth operations only alter the timing of open market operations, thereby, loosening the temporal link between open market operations and changes in interest rates from that required by the open market hypothesis. Because of this, open mouth operations can only account for the lack of evidence of a liquidity effect using relatively high-frequency data (e.g., Hamilton, 1997; Thornton, 2001b). Assuming that the Fed must fulfill the

[1] See Meulendyke (1998), for a discussion of the evolution of the Fed's operating procedure.

[2] Guthrie and Wright (2000, p. 513).