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So all there is to the execution of monetary policy is to set the borrowing rate; no need for any active open-market policy

THE FED

“Effective February 2, 2017, the Federal Open Market Committee directs the Desk to undertake open market operations as necessary to maintain the federal funds rate in a target range of 1/2 to 3/4 percent, including: overnight reverse repurchase operations ... at an offering rate of 0.50 percent, in amounts limited only by the value of Treasury securities held outright in the System Open Market Account...”

BASICS

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We use the term *process* to mean the way that the central bank intervenes in financial markets to implement policy, to distinguish it from *monetary policy*, which is the way that the central bank sets the target interest rate or price level

MODELING A CENTRAL BANK'S PROCESS

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The CB repays the holder of a unit of reserves with $1 + x_t$ units of purchasing power in period $t + 1$

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To set the price level to a target, p_t^* , set $1+x_t = \frac{1+r_t}{p_t^*}$

KEY POINTS

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x_t is a payment, not a return. It is the off-equilibrium policy of paying *above* the interest rate if the price level is below p^* and *below* the interest rate if the price level is above p^* that pegs the price level at 1

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If p_t is taken as fixed and r_t is endogenous,
 $1 + r_t = (1 + x_t)p_t$ —our analysis reaches the standard conclusion that the payment on reserves controls the short rate

MORE GENERALLY, IN REDUCED FORM

Financial integration:

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Our beliefs:

- ▶ Strong integration, x sets r : $\phi(x) = x$
- ▶ Strong output effect: $\theta'(x)$ quite negative
- ▶ Weak price effect: $\psi'(x)$ slightly negative

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at least in the sense that we have not found any plausible model with indeterminacy

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EXPLORATIONS

- ▶ Simple New Keynesian model
- ▶ Sticky information
- ▶ Backward-looking Phillips curve
- ▶ Reserves provide liquidity
- ▶ Money-in-the-utility-function
- ▶ Transaction costs
- ▶ Lagos-Wright (2005)
- ▶ Financial segmentation
- ▶ Costly state monitoring
- ▶ Limited commitment agency costs
- ▶ Sovereign default

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LITERATURE

- ▶ Hall (1997): Proposed making the monetary unit a floating-rate note paying the current real interest rate.
- ▶ Adao, Correia, and Teles: Rule $i_t = r_t + \mathbb{E}_t(p_{t+1}) - p_t^*$, relies on coefficient of exactly 1, any deviation fails.
- ▶ Interest-rate rules: we don't need limit conditions, we don't iterate to infinity. Only arbitrage across two periods (and no linearization).
- ▶ FTPL: we don't use government budget constraint, control of the price level remains with the monetary authority.