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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...”

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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 *price level*, p_t , is the reciprocal of the purchasing power of a unit of reserves

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 $1 + x_t = \frac{1+r_t}{p_t^*}$

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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

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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.