The federal funds rate and the channels of monetary transmission

Bernanke & Blinder (1993)

Presenter: Allegra Saggese

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Context

- Innovative and early work in VAR analysis to assess the role of monetary policy in changing real economic variables
- Early contribution on Fed's real effect on economic variables, including **aggregate demand** (or changing aggregate supply of bank reserves) and **unemployment response to monetary policy**
- Contributes to big macroeconomic questions: *how can we meaningfully understand macroeconomic shocks?*

Question

Does monetary policy effect real economic output? And if so, what's the best measure of the change in monetary policy?

Answer

- **Monetary policy affects the real economy** - response of real activity to a change in the funds rate
  - Using the federal funds rate (FFR) as a proxy for monetary policy
  - FFR is the best predictor of economic productivity in a historical analysis
  - Uses VAR with Granger-causality reports
- Estimates of the slope (elasticity) of the supply curve for reserves at the Fed
- Determining the transmission mechanism of monetary policy: **bank loans and deposits**

Structured vector auto regression (SVAR) approach:

$$P_t = D_1 Y_{t-1} + G P_{t-1} + v_t$$
$$Y_t = (1 - B_0)^{-1}[(B_1 + C_0 D_1) Y_{t-1} + (C_0 G + C_1) P_{t-1} + u_t + C_0 v_t]$$

Variables used to measure the effect of a monetary policy shock:

- Y is a vector of non-policy (economic) variables
- P is a vector of policy variables
- u, v are orthogonal disturbances
- B_t is the coefficient on lagged values of Y, i.e. Y_{t-1}, etc.
- C_t is the coefficient on P
- G is the coefficient on P_{t-1}, or the lag policy coefficient

Illustration: impulse response function

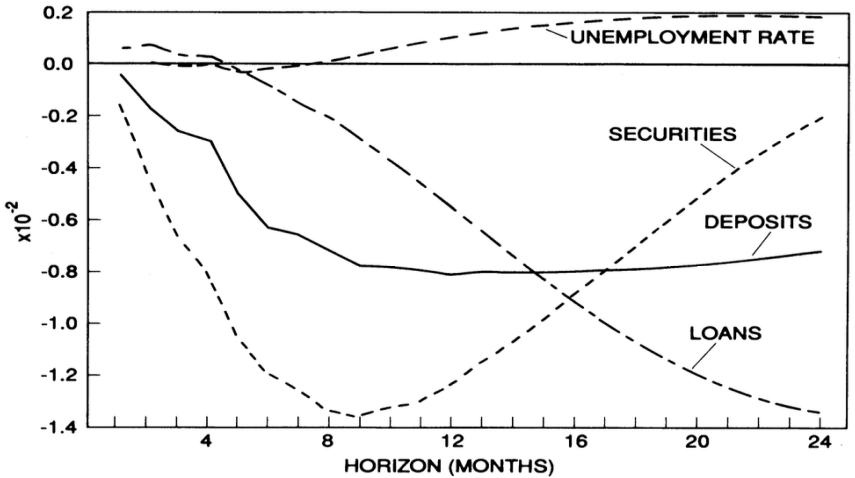

FIGURE 4. RESPONSES TO A SHOCK TO THE FUNDS RATE

Robustness check

- For push-back on the orthogonality requirement of predictors → VAR with orthogonalized residuals (variance attributable to changes in the right hand side variables)
- Criticism on time period → restrict sample to pre-Volcker sample, when funds rate was lower discount, and results hold across most output variables, particularly related to economic activity (capacity utilization, employment, output)
- Comparison to credit spread → inclusion of CPBILL as an estimator in the SVAR shows results are consistent
- Other robustness checks → reordering of variables, changing to non-seasonally-adjusted data, adding a time trend, restricting the sample results in no changes

Contribution to the literature

- Debate of the real effects of money on economic activity (Friedman & Schwartz (1963), Sims (1980), McCallum (1983), Litterman & Weiss (1985), Christiano & Ljungqvist (1988))
- Predictive power of different macroeconomic variables (Avery (1979), Stock and Watson (1989), Laurent (1988))
- Transmission mechanism in monetary policy (Nakamura (1988)).

Conclusion

- *Takeaway:* FFR, or a spread between FFR and another interest rate is a good measure of short run fluctuations, driven by policy and not within time period economic conditions
- *Open question on the transmission mechanism:* if lending is one avenue of transmission for the effect of monetary policy on real economic activity, then why do firm's borrowing appear sensitive to changes in monetary policy, but other forms of corporate borrowing (bonds, other loans), remain unchanged?]item *Limitation:* VARs are not causal estimates, and as such, improvements on certainty in transmission mechanism should be considered