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# Integrating Real and Financial Markets in an Agent-Based Economic Model: An Application to Monetary Policy Design

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## Abstract

This article presents an agent-based integrated model of a real, financial, and monetary economy. The model is characterized by a monopolist firm that supplies a single homogeneous product in the goods market, hires workers in the labor market, and demands loans in the credit market; a trade union that sets the nominal wage;  $N$  heterogeneous households that buy the consumption good, provide the labor force, and trade the firm's equity in the stock market; and a bank that lends money to the firm at an interest rate set according to a monetary policy strategy. The model is used to perform monetary policy experiments. A monetary policy rule which targets the gap between the current output and the potential output in the full employment case is investigated, studying the effects on the economy for different degrees of policy tightness. The monetary policy rule

is compared to a random policy rule that conserves a similar structure. Results show that a tight monetary policy clearly over performs the random policy rule. Moreover, results corroborate the effectiveness of monetary policy in limiting inflation and increasing welfare.

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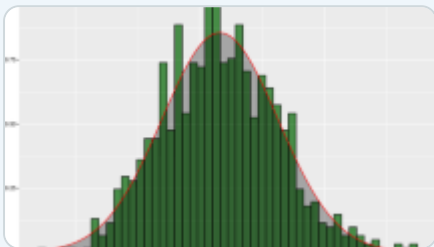
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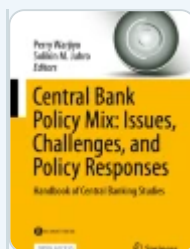
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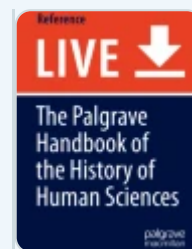
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