Model Uncertainty and Effective Lower Bound Risk

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Very Preliminary

Abstract

Using the canonical New Keynesian model, this paper analyzes the discretionary policymaking with an effective lower bound (ELB) constraint when the central bank-faces uncertainty about model parameters. Our main finding is that the greater degree of parameter uncertainty, under the existence of the "ELB risk" in the economy, can have a non-negligible adverse effect on the social welfare by changing the risky steady state of the economy. In the model, the central bank reacts to parameter uncertainty by attenuating the response of nominal interest rate to the exogeneous shocks. Such inactive policy response leaves the reduction of inflation caused by the ELB risk partially untreated, which lowers the inflation expectaions of private agents and further lowers the realized inflation. As a result, the central bank's uncertainty causes undershooting of inflation at the risky steady state, deepens the deflationary bias of the economy, and results in the larger welfare loss.

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