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PRESS RELEASE

The Taylor principle and (in-)determinacy in a New Keynesian model with hiring frictions and skill loss

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The Taylor principle states that, in response to an increase in inflation, the central bank should eventually increase the nominal interest rate more than one for one, in order to increase the real interest rate. The conventional wisdom in monetary economics says that applying the Taylor principle ensures a unique and stable equilibrium since increasing the real interest rate lowers demand and thus inflation. We show that an active monetary policy may instead induce multiple equilibria if the economy is characterized by (i) skill losses of unemployed workers increasing with unemployment duration, (ii) real wage responding only imperfectly to changes in the worker's skill level, and (ii) low labour market flows. Such multiple equilibria give rise to welfare reducing endogenous fluctuations.

The framework we develop adds skill decay during unemployment along the lines of Pissarides (1992) to the New Keynesian model with hiring frictions and real-wage rigidity of Blanchard and Gali (2008). In this environment, the marginal cost-unemployment relationship turns from negative to positive if quarterly skill decay and real wage rigidity are sufficiently high. Plausible values of quarterly skill decay and real wage rigidity generate a positive long-run marginal cost-unemployment relationship if the job finding probability is calibrated to the OECD-European median. This change in sign affects the requirements the interest feedback rule of the central bank has to meet in order to ensure a stable equilibrium. A positive long- run marginal cost-unemployment relationship almost always requires a coefficient on inflation less than unity if the central bank responds only to inflation. This does not depend on whether the central bank reacts to current, expected future, or lagged inflation. The reason appears to be that, with a positive long-run marginal cost-unemployment relationship, a persistent increase in unemployment will ultimately increase marginal cost and thus inflation. If the central bank applies the Taylor principle, this would increase the real interest rate, subsequently lowering demand and thus validating the increase in unemployment. Hence there is a self-fulfilling prophecy.

By contrast, for a high "American" calibration of the job-finding probability, the long-run marginal cost-unemployment relationship never becomes negative for plausible values of skill decay even if the real wage is perfectly rigid. Correspondingly, a coefficient on inflation larger than one guarantees a unique equilibrium.

Furthermore, adding the output gap to the policy rule restores equilibrium uniqueness under the "European" calibration if the central bank targets steady state output. Adding unemployment has a similar effect. By contrast, targeting flexible price output decreases the determinacy region further if skill decay and real- wage rigidity are such that the long-run marginal cost-unemployment relationship is positive.