Université des Sciences Sociales de Toulouse
MPSE
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DEA Macroéconomie II — Cours de Franck Portier
Session de Septembre (2 heures)

Questions

Please propose a structured answer to each question, with as much economic content as possible. Please define the main terms and use mathematics if needed.

1. Optimal monetary policy and the Frideman rule.

2. Rational expectations and economic policy. To illustrate your point, solve the following Aggregate Demand - Aggregate Supply model under static and rational expectations:

$$\begin{aligned} y_t &= \lambda y_{t-1} + \alpha(p_t - p_t^e) \quad (AS) \\ y_t &= -\beta p_t + \gamma m_t \quad (AD) \end{aligned}$$

   where y is output, p is the price level, p^e the price expectation, that can be static ($p_t^e = p_{t-1}$) or rational ($p_t^e = E_{t-1}p_t$), m is the money supply. m_t is observed in period t.

3. Ricardian Equivalence.

4. The credibility problem of economic policy. To illustrate your answer, show that the there is an inflationary bias in the following model of monetary policy. The Central Bank (CB) objective is given by $U = \lambda(y - y_n) - \frac{1}{2}\pi^2$, where y is output, y_n is a constant and π is inflation. The private sector is described by an aggregate supply function $y = y_n + a(\pi - \pi^e) + e$, where e is a supply shock and π^e is the expected inflation formed by the private sector. The link between inflation and CB's instrument Δm is $\pi = \Delta m + v$, where v is a velocity shock. The timing of the model is such that first the private sector chooses π^e, then e is realized, then the CB decides Δm, then v is revealed. (Hint: in this model, it is meaningful to compare the no commitment equilibrium with the one in which the Central Bank commit to the rule $\Delta m = 0$).