

Problem Set 1: Fiscal Policy
Year 2004-2005

1 The Basics of Fiscal Policy

Problem 11.1 from Romer, Second Edition (p.582)

2 Precautionary Savings and Ricardian Equivalence

Problem 11.2 from Romer, Second Edition (p.583)

3 Seignorage versus bond financing

Consider the Liviatan(1984,1986) model studied in class. Suppose that the taxes now are lump-sum rather than proportional, so that the key equations are:

$$\dot{b}_t = rb_t + \tau - \mu m_t - z_b, \quad (1)$$

$$\dot{m}_t = (\mu + r)m_t - z_m, \quad (2)$$

$$a = m + b + (y + \tau)/r. \quad (3)$$

Notation is as in class, except that τ is now a lump-sum transfer instead of a proportional tax. Note that bond holdings are a state (historical) variable, while money balances now can jump in accordance with tax changes.

a) Suppose that at time zero the transfers are raised permanently (a permanent tax cut). The rate of money creation μ remains unchanged until time $T > 0$, at which moment μ is changed permanently as well in order to put the economy immediately to a new steady state. Using diagrams and/or equations, demonstrate what happens to inflation rate and bond holdings during the period $[0, T]$, and compare the old steady state to the new one. What lessons can one draw from this experiment?

b) Suppose now that everything is as in (a) but at time T the deficit $(\tau + rb)$ is returned to the original level. What consequences for money growth rate and inflation does this policy have? (Note that now equation (3) does not hold due to non-constant taxes).