

# Problem Set

## Optimal Monetary Policy and the ZLB

1. Suppose that you have a sticky price New Keynesian model. Suppose further that the central bank wants to target a constant level of output,  $Y_t$ . How must it adjust the money supply in response to the following kinds of shocks:
  - a) A decrease in  $A_{t+1}$
  - b) An increase in  $\theta_t$
  - c) An increase in  $\pi_{t+1}^e$
2. Summarizing what you have learned in the last question, explain how monetary policy ought to react to a positive shock to the IS curve. How should monetary policy react to a negative productivity shock (e.g. a decrease in  $A_t$ )?
3. Explain why changes in government spending have a bigger effect on output at the ZLB than away from it. What is the economic intuition for it? Use an appropriate graph to underpin your argumentation.
4. Explain what is meant by a *deflationary spiral* and why the normal mechanism which restores the efficient neoclassical equilibrium may not work at the ZLB.