Problem Set 4: Monetary Policy & New Keynesian Model

Monetary Policy

Exercise 1. What are the implications of a nominal anchor for stabilization policy? (Hint: consider what would happen to inflationary expectations in the future – and hence long-run interest rates – if expectations were not anchored, and the central bank increased money growth today in response to a recession).

Exercise 2.

> 'But the FOMC also disliked being constrained by the bond market. It hated it when the bond market built expectations about policy actions at the very next meeting into current long-term interest rates, when the Committee was uncertain whether or not it would prefer to move that soon.' (Laurence Meyer, 'Term at the FED')

Explain what Meyer is referring to here.

Exercise 3. The FED has claimed that it will 'mop up' all the liquidity it has created as soon as the economy starts recovering. Is this claim dynamically inconsistent?

New Keynesian Model

Exercise 4. Suppose a) because of globalization, consumer demand becomes more elastic; and b) nominal wages rise. To maximize profits, how should the monopolistically competitive firm change prices in each of these cases?

Exercise 5. According to the New Keynesian model, what are the implications of procyclical marginal costs for prices over the business cycle?

Exercise 6. According to the New Keynesian model, a firm's price exceeds marginal cost; i.e., $p > MC$. Explain clearly why the firm would *reduce* profits if it produced more. Would the firm be willing to produce more at a *constant* price?

Exercise 7. What would happen to the optimal price if unions increased wages by some proportion, γ? In a symmetric equilibrium – i.e., where all firms were the same – what would happen to the real wage?

Exercise 8. What would happen to a firm's markup if nominal wages increased, but its price stayed fixed?

Exercise 9. Write down the firm's optimal pricing rule in log form. What would be the optimal price if a firm must set prices for *two* periods? What log price would it set? What would happen if productivity was expected to rise next period? What would happen if the firm cared more about this year's profits?

Exercise 10. In a boom, suppose there is 'learning by doing', as the firm produces more; that is, the workers learn to work more efficiently as they work harder in a boom. Explain how this mechanism acts as a form of *real rigidity*, which reduces incentives of the firm to change its price. How is the power of monetary policy affected? What implications does this have for the New Keynesian model's prediction for the cyclical nature of productivity, the New Keynesian Phillips Curve and the effectiveness of monetary policy?

Exercise 11. Explain how *efficiency wages* affect firms' incentives to change prices. Efficiency wages refer to the idea that, as real wages rise, workers become more efficient.

Exercise 12. Multiple Choice Questions: 2012 Q11; 2011 Q10; 2010 Q4, Q6, Q7; 2009 Q9.