Business Cycles
Prof. Dr. M. Wolters Summer 2022

Problem Set

The Neoclassical Model - The Effect of Shocks

1. Can you provide any intuition for the neutrality of money in the neoclassical model? Do you think monetary neutrality is a good benchmark when thinking about the real world?

2. Define what is meant by the "classical dichotomy". If the classical dichotomy holds, can we ignore nominal variables when thinking about the real effects of changes in real exogenous variables?

3. Consider the basic Neoclassical model. Suppose that there is an increase in θ_t.

a) Graphically analyze this change and describe how each endogenous variable changes.

b) Now, draw out two versions of the model, one in which labor supply is relatively elastic (i.e. sensitive to the real wage), and one in which labor supply is relatively inelastic (i.e. relatively insensitive to the real wage). Comment on how the magnitudes of the changes in Y_t, r_t, w_t, and N_t depend on how sensitive labor supply is to the real wage.

4. Consider the basic neoclassical model. Suppose that there is a reduction in A_t. In which direction will P_t move? Will it change more or less if money demand is less sensitive to Y_t?

5. Consider the basic Neoclassical model. Graphically analyze the effects of:

a) An increase in G_{t+1}.

b) An increase in A_{t+1}.

6. Consider two different versions of the basic neoclassical model. In one, the marginal propensity to consume (MPC) is relatively large, in the other the MPC is relatively small.

a) Show how a higher or lower value of the MPC affects the slope of the IS curve.

b) Suppose that there is an increase in A_{t+1}. Show graphically how this impacts equilibrium r_t in the two cases considered in this problem - one in which the MPC is relatively large, and one in which the MPC is relatively small.