Dynamic Macro Model Simulation Exercises
Using Excel workbook version “Chapt15Model2017.xlsx”

1. In the “Base Model” tab of the Excel workbook, I’ve put in a negative demand shock that lasts for three periods (-8, -8, -3). This scenario is also automatically copied into the “Inflation Hawk” tab and the “Inflation Dove” tab worksheets. The “Comparison Charts” tab shows charts all three “types” of central banks.

   a. Compare the response of monetary policy (nominal interest rate) and the economy under an “Inflation Hawk” central bank and an “Inflation Dove” central bank. Under which policy regime does inflation return to its target of 2 percent more quickly? Under which policy regime does the output gap close more quickly? Explain.

   b. What value of the nominal interest rate would the Inflation Hawk like to set if it could? What nominal interest rate would the Inflation Dove like to set if it could? Why is one much lower than the other? Given the zero lower bound on the nominal interest rate, what value of the interest rate do the central banks actually set?

   c. For how many periods does the Inflation Hawk keep the interest rate at zero? For how many periods does the Inflation Dove keep the interest rate at zero? Explain.

2. Change the three-period demand shock to (-7, -5, -3), representing a less severe recession. Do both central banks still push the nominal interest rate down to its lower bound of zero?

3. Change the three-period demand shock to (-9, -8, -3), which represents a larger negative demand shock. What happens? Why can’t interest-rate policy prevent this from happening?

4. Suppose that the inflation target is 4% rather than 2%. Change the inflation target to 4% for all periods and consider the same three-period demand shock of (-9, -8, -3) starting in period 1. What happens now? Is policy effective in offsetting the shock?