Homework 3 Chapters 5 and 6

1. Give the Lucas aggregate supply curve an productivity shock, and assume that this aggregate shock is common knowledge such that

\[ y_t(z) = y + \eta_t + \gamma [P_t(z) - E(P_t|I_t(z), \eta_t)] \]

(a) Aggregate across markets and write the aggregate supply equation in terms of aggregate prices and output.

(b) Assume that aggregate demand is the quantity equation

\[ M_t - P_t = y_t, \]

where

\[ M_t = M_{t-1} + \eta_t, \]

implying that money is a random walk. Substitute and solve for price.

(c) Set up the solution in terms of undetermined coefficients and solve for price and output with price given by

(d) Does money have real effects? Explain why or why not.

(e) How could you modify the model to give money real effects?

2. Chapter 6, Problem 1

3. Chapter 6, Problem 8