Week 3 Homework: Money Supply Process

ECO 301: Money and Banking

Homework 4: Money Multiplier

1. Suppose the required reserve ratio in 3%, banks hold an extra 5% of deposits in excess reserves, and consumers hold currency balances that are about 8% of what they hold in deposits in banks. Suppose the Fed makes an open market sale of $500 billion of government bonds.

   a) Compute the impact on the monetary base.

   b) Compute the impact on the M1 money supply.

   c) Compute the impact on the amount of deposits held in the banking sector.

   d) Compute the impact on required reserves, excess reserves, and total reserves held by banks.

Homework 4: Money Multiplier Intuition

2. Suppose banks have an increase in confidence in the economy and financial markets, and decide to hold less in excess reserves, lending out more to consumers and businesses.

   Write down the general money multiplier formula and use the formula to describe how a decrease in currency holdings affects the money multiplier, and therefore the money supply. Hint: Focus on the effect on the denominator.

3. Suppose an improvement in computer financial technology causes consumers to decrease the amount of money they hold in currency, using more electronic forms of money instead. Describe intuitively how this change would affect the money multiplier, describing whether more money or less money will enter each new round of the money creation process.