**Homework #3**

Due: 19 February 2024

**1. MONEY MULTIPLIER**

Suppose the public holds currency at a share of 10% of base money and commercial banks hold reserves at a share of 20% of deposits.

a) What is the value of the multiplier?

b) Imagine the public loses faith in the banking system and bankers lose faith in the economy. How would this be reflected in the ratios and in turn in the money multiplier?

c) How does this then affect the power of the central bank to stimulate the economy?

**2. EQUATION OF EXCHANGE**

Suppose inflation is running at double digits (≥10%) and the central bank determines to bring it down by reducing money supply growth.

1. For slower growth in the money supply to act directly on inflation, what does the equation of exchange require?
2. Why might tighter money initially be felt in slowing output growth rather than slowing inflation?
3. As inflation comes down, what is likely to happen to money velocity and how does this impact the central bank’s job?

**3. CENTRAL BANK INTERVENTION IN THE CURRENCY MARKET**

Suppose the Bank of Korea enters into the foreign exchange market to prop up the value of the won.

a) What does it buy and what does it sell?

b) How is this reflected on the Korean balance of payments?

c) How is it reflected on the central bank’s balance sheet?

**4. INTEREST RATES & BOND PRICES**

Consider a 3-year bond with a face value (to be paid at maturity) of $100 and a coupon rate (interest paid annually) of 4%.

1. What is the price of the bond at issuance if the market interest rate is 4%?
2. What is the price of the bond one year after issuance if the market interest rate rises to 7%?
3. What is the price of the bond one year after issuance if the market interest rate falls to 3%?