The Digital Economist

Intermediate Macroeconomics
Worksheet #8: **Money Markets**   Name:_____

1. Given the following (all values in billions):

   C = Currency in circulation
   DD = Demand Deposits = $1,200
   XR = Excess Reserves
   r_d = reserve requirement on Demand Deposits = 0.10

   (C/DD) = 0.25, (XR/D) = 0.05

- Calculate the value of the monetary base.

- What does the monetary base represent?

- Calculate the value of the M_1 money supply.

- What is the value of the money multiplier?

If the central bank desires to target M_1 at $1,600, by how much should it change the monetary base?

How will this change affect: Currency in Circulation (ΔC)?, Demand Deposits (ΔDD)?

Explain exactly how *Open Market Operations* will be used to achieve this goal.

2. Using the data from question #1 combined with the following information about money demand equation and Nominal GDP (note: in equilibrium, $M_1 = M_s = M_d$):

NGDP $(\mathbf{Y}) = \$10,000$ {income held constant}

$M_d = 0.20Y - 100(i)$

Calculate the value of the nominal interest rate before and after the change in the money supply calculated on page 1.

3. Suppose that we have the following additional information:

$Y_e \quad = \alpha[A_o - h(r)]$ {Product Market Equilibrium where: α = the Spending Multiplier, A_o = Autonomous Expenditure, and 'h' = the Interest Sensitivity of Investment}

$\quad = 2.50[5000 - 200(r)]$ {note: r = i. such that $\pi = 0$}

Using the Money Demand equation of question #2, calculate the equilibrium level of income (Y_e) and market interest rate (r), before and after the changes in the money supply on page 1.