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Question 2

W=50,000$
Y=60,000$
M^d=$Y*(0.35-i)

a) M^d(Y,0.05)=18,000, B^d =W-M^d (Y,0.05)=32,000
   M^d (Y,0.10)=15,000, B^d =W- M^d (Y,0.10)=35,000
b) An increase in the interest rate generates a decrease in the demand for money and an increase in the demand for bonds. This is because the opportunity cost of holding money increases.
c) $\Delta M^d / M^d = (0.035-0.10) * \Delta Y/[Y*(0.35-0.05)] = \Delta Y/Y = -0.5$.
d) $\Delta M^d = (0.035-0.05) * \Delta Y/[Y*(0.35-0.05)] = \Delta Y/Y = -0.5$
e) The demand for money falls one for one in percentage terms in response to a change in income.

Question 4

M^d=$Y*(0.25-i)
Y$=100$
M^S=20$

a) To obtain the equilibrium interest rate set $M^S = M^d$: 20=100*(0.25-i). It follows that i=0.05.
b) If we want i to increase by 10 percentage points, i.e. $\Delta i = 0.10$, this is how we compute the change in the money supply: $\Delta M^S = -Y*\Delta i = -10$. The money supply has to decrease if you want interest rates to increase.

Question 5

W=50,000
Y=60,000
M^d=$Y*(0.35-i)

a) The demand for bonds is : B^d=W- M^d=50,000-60,000*(0.35-i). This implies that $\Delta B^d = Y*\Delta i = 60,000*0.10 = 6,000$.
b) In this model, changes in wealth do not change the demand for money. Therefore: $\Delta B^d = \Delta W$. Changes in wealth effect the demand for bonds one for one.
c) $\Delta M^d = \Delta Y*(0.35-i)$ The larger is the interest rate, the smaller the effect of changes in income on money demand i.e. If it is very costly to hold money, the incentive to economize on holdings of money swamps the effect originating from increased transaction demand.
   $\Delta B^d = -\Delta Y*(0.35-i)$ This is obviously true since wealth remains constant.
d) Agents with higher income have a higher transactions demand for money, hence they want to hold fewer bonds when income is higher.