Exercise 5

1. What are the three functions of money? Evaluate whether "gold" can effectively serve these three functions.

1. Store of value : able to transfer PoP overtime
2. Medium of exchange : generally accepted
3. Unit of account : allow people to compare value

- gold cannot effectively serve these three functions in lack of unit of account

2. Suppose that people hold 1000$ as cash, 1000$ as demand deposits, and 1000$ as savings; calculate narrow money and broad money. How much is the "money supply" in the economy?

currency in circular + demand deposits

M_1 : 1000 + 1000 : 2000

M_1 + money & time deposit

M_2 : 2000 + 100 : 3000

Money supply : 3000 #

3. What is Fractional Reserve System (FRS)? Explain how money can be created through this system.

FRS is a system in which part of the money deposited is reserved by CB and the other part, which is available for withdrawal of money, is made available for lending by the banks.

4. Suppose that the reserve ratio is 20% and that Mr.Bean has 100$ CASH and 200$ DEPOSIT. Assume that people deposits all their money, and that the banks lend all their deposits; answer the following questions.
a) What does the reserve ratio of 20% means?
b) WITHOUT the fractional reserve system (FRS), how much is the money supply?
c) Calculate the money multiplier.
d) WITH the FRS, how much is the TOTAL DEPOSIT within the economy?
e) How much deposit is created from the FRS?
f) WITH the FRS, how much is the money supply?

a) CB will reserve 20% of total deposits from banks

b) 700

c) money mutiplier $= \frac{1}{RR} = \frac{1}{0.2} = 5$

d) total deposit $=$ primary deposit $\times \frac{1}{RR} = 200 \times 5 = 1000$

e) $1000 - 200 = 800$

f) Ms = cash + deposit (FRS) $= 100 + 1000 = 1100$

5. Explain three roles of central banks.

1. The central bank controls the money supply by setting the interest rate.

2. The central banks provide funds to banks when they are in trouble and have no other resources.

3. The central bank manges the exchange rate and the country's foreign reserves.

6. What is Liquidity? What is the most liquid asset? Explain the three reasons (according to Keynes) why people prefer to have liquidity. Which of these three reasons causes the money demand curve to be downward-sloping?

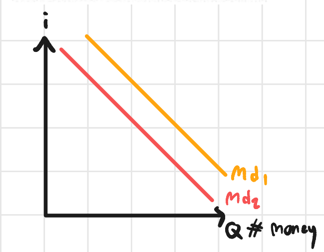
Liquidity indicates how easily assets can be converted into mean of exchang.
↳ Cash is the most liquid asset.

three reasons ppl prefer to have liquidity
- transaction demand (for daily use)
- precautionary use (for unexpected use)
- speculative demand (for future investment)

Specalative demand causes the money demand curve to be downward-slopping. People hold cash in order to invest when the rate of return is high

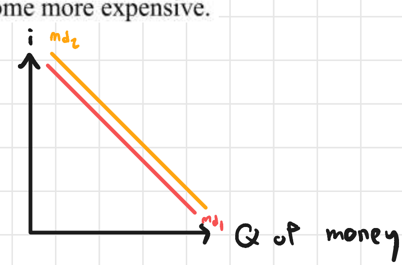
7. How does each of the followings affect the money demand curve? (That is, will it shift the curve, or is it movement along the curve?) Also, explain your reasoning.

a) People become poorer.



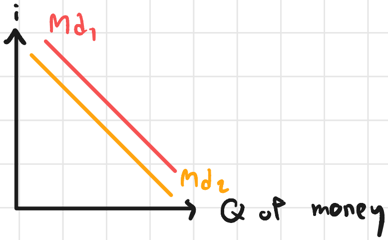
- Md shift left
- income decrease

b) Goods become more expensive.



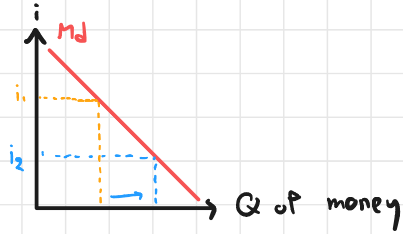
- Md shift right
- Goods become more expensive so ppl will demand for more money.

c) People prefer to hold less cash due to debit/credit cards



- Md shift left
- ppl demand less cash

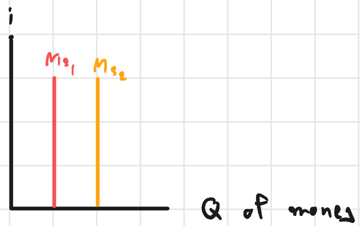
d) The central bank decreases interest rate.



- movement along the curve due to change in interest rate.

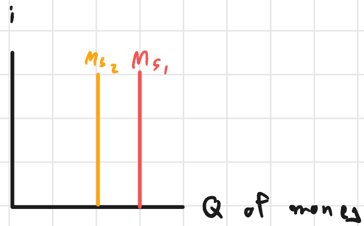
8. Why is the money supply curve a vertical line? How does each of the followings affect the money supply curve? Also, explain your reasoning.

a) People deposit more money.



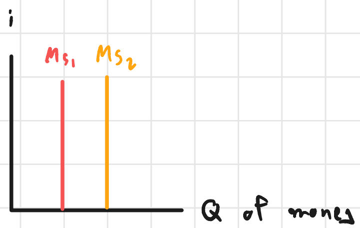
- Ms curve shift to the right because it deposits the cash and then the quatity of money increases.

b) The central bank increases reserve ratio.



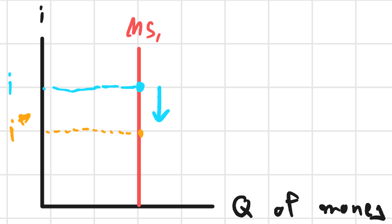
- The MS curve shifts to the left because money is held in reserve, which decreases the quantity of money.

c) The central bank decreases discount rate.



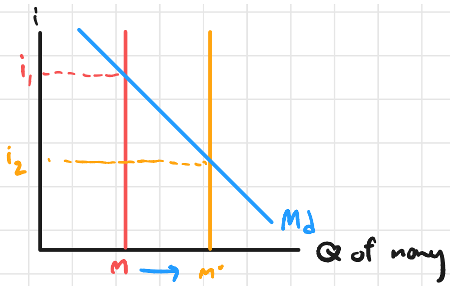
- The Ms curve shifts to the right because banks will borrow more money, increase the quantity of money and the money supply.

d) The central bank decreases interest rate.



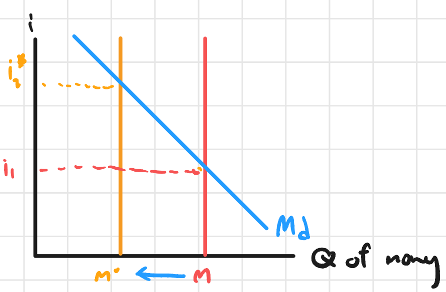
MS curve doesn't shift BC money determind by central bank but it doesn't depend on interest rate. "movement along the curve"

9. Suppose that the central bank wants to lower interest rate to boost the economy. Explain, together with the money market diagram, how the central bank can achieve this through an open market operation.



The central bank will buy government bonds. In doing so, it will increase the quantity of money in the market. To restore equilibrium, the interest rate will fall.

10. Suppose that the money market is NOT in equilibrium because the current interest rate is higher than the equilibrium rate, i > i*. Explain how the money market adjusts to reach the equilibrium.



- If the interest rate is too high, it will lead to an oversupply. People will try to exchange cash for bonds. Since the bank cannot pay interest due to high demand for bonds, it will lower the interest rate.

11. Write down the equation for the Quantity Theory of Money. Explain how this equation can be used to explain inflation.

→ $MV = PY$

M: money supply
V: velocity
P: Price level
Y: real output

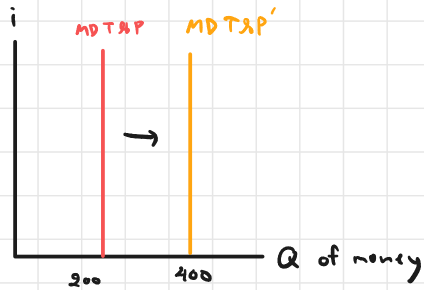
Suppose that V is constant and Y is also constant at full employment. So increasing the money supply leads to an increase in the price level. Therefore, printing money creates inflation

12. Let the money demand function be $M_D = 200 - (1000)i$ and the money supply function be $M_S = 100$.

a) Calculate the equilibrium interest rate, i*. (Hint: set $M_D = M_S$ and solve for i*)

$$M_S = M_D$$
$$100 = 200 - 1000i$$
$$1000i = 100$$
$$i^* = \frac{100}{1000} = 0.1$$

b) Suppose that new money demand function becomes $M_D = \underset{Ly}{400} - \underset{Li}{(1000)i}$. What can be inferred about the transaction and precautionary demand?



Transaction and Precautionary demand do not depend on the interest rate, so it is a vertical line. When the initial demand for money increase, the curve is shifted to the right.