Exercise 5
Money Market

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

1. Store of value : Be 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?

M_1 = Currency in circular + demand deposits = 1000+1000 = 2000

M_2 = M_1 + Money and time deposit = 2000 + 1000

∴ Money supply = 2000 + 1000 = 3000$

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

FRS is a system where a fraction of money deposit will be reserved by CB and the others available for withdraw

Money can be created by banks put money out for lend

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) 300

c) money multiplier = $1/RR = 1/0.2 = 5$

d) total deposit = primary deposit $\times 1/RR = 200 \times \frac{1}{0.2} = 1000$

e) $1000 - 200 = 800$

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

5. Explain three roles of central banks.

1. Control money supply by setting interest rate
2. provide funds for banks when they are in trouble and don't have other resource
3. Managing exchange rate & the nation's foreign reserve

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 is refer to how easily assets can be converted into mean of exchange. cash is the most liquid asset
People prefer to have liquidity because

1. transaction demand (for daily use)
2. precautionary use (for unexpected use)
3. speculative demand (for future investment)

Speculative demand cause the money demand curve to be downward-sloping (people hold cash in order to invest when the returns are 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.

b) Goods become more expensive.

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

d) The central bank decreases interest rate.

a) Md shift left

→ income decrease

→ Md shift to the left

Q of money

b) Md shift right

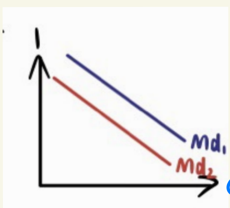
→ goods become more expensive

→ people will demand for more money

→ Md shift right ward

Q of money

c)

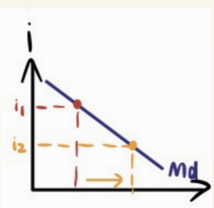


→ people demand less cash

→ Md shift leftward

Q of money

d)



→ movement along the curve due to change in interest rate

Q of money

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.

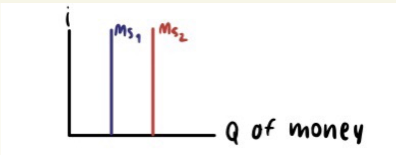
a) People deposit more money.

b) The central bank increases reserve ratio.

c) The central bank decreases discount rate.

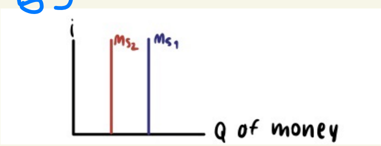
d) The central bank decreases interest rate.

a)



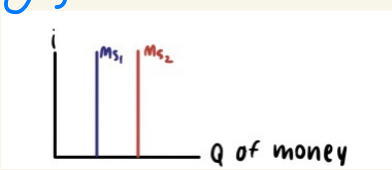
Ms curve shift rightward because it deposits the cash, the quanity of money increase

b)



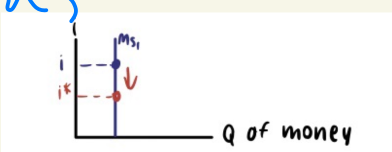
Ms curve shift leftward because the money is kept in the reserve make the quantity of money decrease

c)



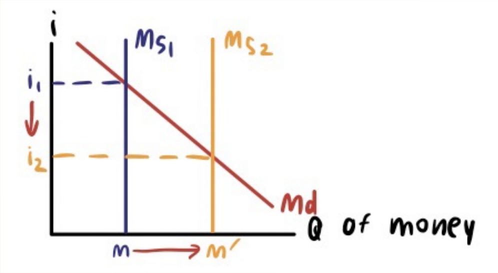
Ms curve shift rightward because banks will borrow more money, increase quantity of money and money supply

d)



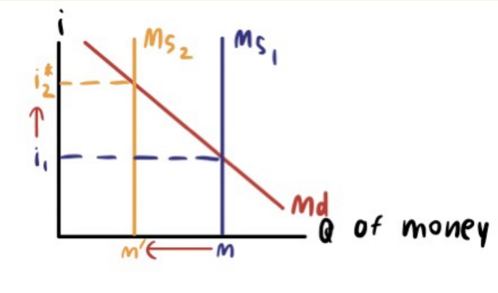
Ms curve does not shift because it depend on interest rate, which is movement along the curve

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 <u>through an open market operation.</u>



The central will buy goverment securities hence, increase the quantity of money in the market. To adjust it to the 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 create excess supply. people will try to convert cash into bond. The bank wont be able to pay interest due to high demand for bond. So they will low 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

V is constant

Y is at full employment rate ↑ also constant

↑M lead to ↑P

printing money create 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*)

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

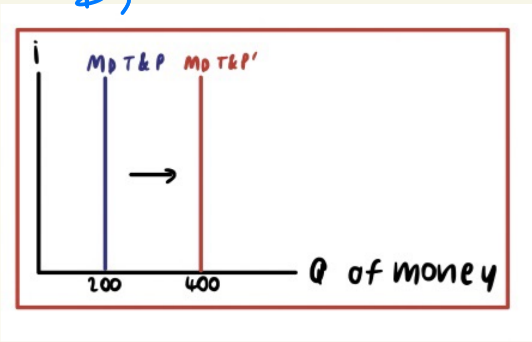
a) $Ms = Md$

$100 = 200 - 1000i$

$1000i = 100$

$i = \frac{100}{1000} = 0.1$

b)



Tranaction & Precaustionary Demand do not depend on interest rate, so it's a vertical line. Then, the initial money demand raises, It will shift the curve right.