

Exercise 5

Money Market

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

- a medium of exchange - generally accept in the transactions of G & S
- a store of value - transport purchasing power from one time period to another
- a unit of account - allows people to compare the values

I think gold can be serve in these three functions because its intrinsic properties

- a medium of exchange - it generally accept but their are something more common accept
- a store of value - yield utility
- a unit of account - each country need to give gold to the world bank the same amount of the printing but USD may be the more common

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?

$$\text{Narrow Money } (M_1) \quad 1000 + 1000 \\ = \$2,000$$

$$\text{Broad Money } (M_2) \quad 1000 + 1000 + 1000 \\ = \$3,000$$

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

Fractional Reserve System is when bank receive the money from deposit and then separate the money to fraction: one fraction is the reserve money at the central bank and another money they use to investment - loan -

The money can be generate in this system is when bank use the other people's deposit money to loan other people then people use that money to buy G&S then the seller of G&S deposit the money and then it continue the loop

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) the percentage of the total deposit money that bank need to reserve at the central bank

b) \$300

c) $\frac{1}{0.2} = 5$

d) $\$200(5) = \$1,000$

e) $\$200(5-1) = \800

f) $\$100 + \$200(5) = \$1,100$

5. Explain three roles of central banks.

- control interest rate
- provides funds to troubled banks
- managing exchange rate

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 when people hold cash

The most liquid asset is cash

3 reason

- for daily use

- for unexpected use / emergency

- for future investment

Why people prefer to have liquidity because

they want to be prepare when the interest return 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) transaction and precautionary
shift to the left because less income

b) transaction and precautionary
shift to the right because people
hold more cash for daily life

c) transaction and precautionary
shift to the left because if credit
cards make people carry less cash

d) no shift but the new
point is speculative and it
reverse so decrease $i = M_D \uparrow$

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) deposit more money = $M_s \uparrow$

$$\text{deposit} \times MM = M_s$$

$$\text{deposit} \uparrow = M_s \uparrow$$

b) increase RR $\rightarrow$ lower money supply

$$\frac{1}{RR} \cdot MM \quad \text{so when } RR \uparrow \quad MM \downarrow \quad M_s \downarrow$$

c) decrease discount rate $\rightarrow$ higher M_s

Bank borrows more reserves from

CB $\rightarrow$ Higher M_s

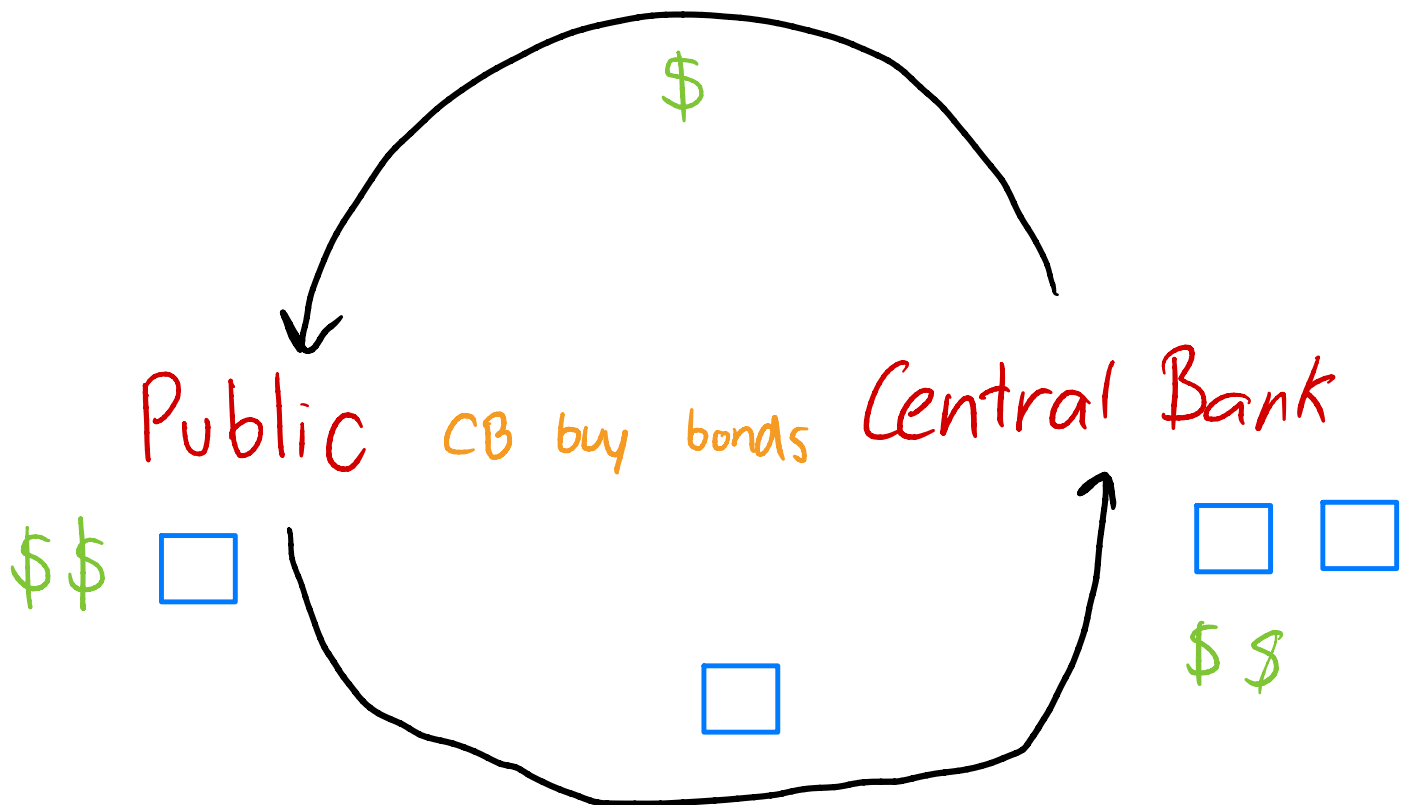
d) decrease interest rate $\rightarrow$ $\downarrow$ Money supply

people deposit less money

$$\text{deposit} \times MM = M_s$$

$$\downarrow \text{deposit} = \downarrow M_s$$

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.



From this diagram as you can see
CB buy bonds from the public this
mean it increase the money in
the circulation or economy.

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 it is excess supply it means i is too high
so i needs to go down to the equilibrium

- Expansionary Monetary Policy
to increase money supply and reduce
the interest rate

- CB
- buy bonds
- lower discount rate
- lower reserve ratio

If it is excess demand it means i is too
low so it needs to go up to the equilibrium.

- Contractionary Monetary Policy to decrease
money supply and raise interest rate.

- CB
- sell bonds
- raise discount rate
- raise reserve ratio

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

$$MV = PY$$

V and Y is a constant

$$\therefore M \uparrow = P \uparrow$$

so increase in money supply lead
to increase in price level and
increase in price level is 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?

$$a) M_D = M_S$$

$$200 - (1000)i = 100$$

$$200 - 1000i = 100$$

$$-1000i = -100$$

$$i = 0.1$$

b) transaction and precautionary demand

Shift to the right people hold more

cash