

Exercise 5: Money market.

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Answer:

1. Three functions of money: medium of exchange, store of value, and unit of account.
Gold: can serve as a store of value, but not medium of exchange or unit of account due to unaccepted generally, and cannot measure or compare value of thing.

2. Calculate: . Narrow money : $M_1 = \text{Cash} + \text{demand deposits}$
 $= 1,000 + 1,000 = 2,000 \$$
. Broad money : $M_2 = M_1 + \text{saving}$
 $= 2,000 + 1,000 = 3,000 \$$
. Money supply in the economy = 2,000 \$

3. Fractional Reserve System (FRS) is a banking system that fraction of deposit are backed by actual cash on hand and are available for withdrawal.

Through this system, money can be created: Suppose that Reserve ratio (RR) = 20%. then Mr. A deposit 100\$; bank need to reserve 20\$ and lend to Mr. B 80\$. Mr. B deposit 80\$; bank need to reserve 16\$ and can lend to Mr. C. The process repeat again & again, the money supply = 100 + 80 + 64 + ...

4. (a) The reserve ratio 20% mean bank need to keep at the central bank for backup and withdrawal. Thus, \$40 will be kept and 160\$ will be used.

(b) Without the FRS, the money supply: $M_1 = \$100 + \$200 + \$200 + \$200 + \dots$

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

(d) With FRS, the total deposit within the economy = $\$200 \times 5 = \1000

(e) Deposit that is create from FRS = total deposit - initial deposit
 $= \$1000 - \$200 = \$800$

(f) With FRS, money supply: $M_1 = \text{Cash} + \text{total deposit}$
 $= \$100 + \$1,000 = \$1,100$

5. Three roles of central bank:

- Money supply controller: control interest rate (monetary policy) to control money supply during recession or expansionary situation.

- lender of last resort: provides funds to rescue the bank that have no sources fund.
- Managing exchange rates and the nation's foreign exchange reserve.

6. Liquidity is how easily assets that can be converted to a mean of exchange. The most liquid asset is cash. According to Keynes, three reasons that people prefer to have liquidity:

- transaction demand (hold cash for daily use)
- Precautionary demand (hold cash for unexpected event)
- Speculative demand (hold for future investment when return is high)

+ Speculative demand is the one that make the money demand curve to be downward sloping.

7. a). People become poorer.

↳ Money demand curve will shift down. Money demand will decrease because they don't have money to spend

b). Good become more expensive:

↳ Money demand curve will shift up. Money demand will increase because people need more money to buy goods.

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

↳ Money demand curve will shift down. Money demand will decrease due to preference

d). The central bank decreases interest rate:

↳ there will be movement on M_3 curve down ($i_1 \rightarrow i_2$). Money demand will increase because the cost of borrow is cheaper.

8. Money supply curve is a vertical line because it does not rely on interest rate and is determined by central bank.

a). People deposit more money:

↳ it has no effect on money supply.

b). central bank increase reserve ratio:

↳ Money supply curve will shift to the left. Money supply will decrease as central need to keep more money.

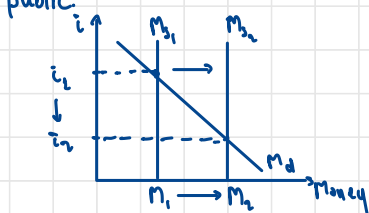
c). The central bank decrease discount rate.

↳ Money supply curve will shift to the right. Money supply will increase as they will lend out more money to help public.

d). Central bank decrease interest rate:

↳ Money supply curve will shift to the right. Money supply will increase as people will lend more money due to low interest rate.

g). Central bank will have to purchase govt. bond, so that there will more money to public.



10). When $\bar{i} > \bar{i}^*$, there will be excess money supply. People will buy interest bearing asset. Bond or share issuer or bank will decrease interest rate to due to high interest rate to many savers. Thus, $\bar{i} \rightarrow \bar{i}^*$.

11). The equation for the Quantity Theory of Money: $MV = PY$

Assume. $V \& Y$ is constant.

when $M \uparrow \rightarrow P \uparrow$

Thus, when printing money will create inflation.

19). a). Calculate the eq/bm \bar{i}^* :

$$\text{Eq/bm: } M_s = M_d$$

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

$$\Rightarrow \bar{i}^* = \frac{100}{1000} = 0.1 = 10\%$$

b). When the new $M_d = 400 - (1000)i$, transaction & precautionary demand will increase due to increase of autonomous of function (200-400) -