

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

The three main functions of money are a medium of exchange, a store of value, and a unit of account. Gold is considered as a commodity money as it's a physical good that individuals can use to trade for other goods. Gold can be used as money, as under the free market system gold is considered as a currency. Gold also has a price which fluctuates with the exchange.

**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?**

Money supply is determined by the central bank

**M1** = currency in circulation + demand deposits

**M2** = broad money

$$M1 = 1000\$ + 1000\$$$

$$M1 = 2000\$$$

$$M2 = M1 + 1000\$$$

$$M2 = 3000\$$$

**3. What is the fractional reserve system [FRS]? Explain how money can be created through this system**

There's a specific form of banking system used by goldsmiths and banks which is called fractional reserve banking. In this form of banking system is a system in which only a fraction of bank deposits are backed by actual cash on hand and available for withdrawal. This is a principle to expand the economy by freeing capital for lending. Banks are required to hold only a certain amount of their customer' deposit on hand, making the rest of the money free to lend out. The fractional reserve system is created to ensure that there is a continually stimulation of supply of money that's being available in the economy, while ensuring that there is enough cash on hand to give out when needed for withdrawals.

**4. Suppose that the reserve ratio is 20% and that Mr.Bean has 100\$ CASH and 2000% DEPOSIT. Assume that people despotism all their money, and that the banks lend all their deposits; answer the following questions.**

**a. What does the reserved ratio of 20% mean?**

Reserved ratio is the percentage of the whole sum of money deposited that a bank must keep as reserve at the central bank. Meaning that 20% is the total deposit the bank is required to keep at the central bank.

**b. WITHOUT the fractional reserve system [FRS]. How much is the money supply?**

80 cash, as the system is when the bank holds only a fraction of the bank's deposits and the rest is actual cash on hand.

**c. Calculate the money multiplier.**

Money multiplier =  $1 / \text{reserve ratio}$

$1/80 = 0.0125$

**d. WITH the FRS, how much is the TOTAL DEPOSIT within the economy?**

Total deposit = initial deposit x money multiplier

=  $100 \times 0.0125$

= 1.25

**e. How much deposit is created from the FRS?**

Total deposit - initial deposit

$1.25 - 100$

0.25

**f. WITH the FRS, how much is the money supply?**

Money supply = reserves divide by money multiplier

**5. Explain three roles of central banks.**

The three main roles of a central bank is to advise on policy such as the monetary policy to control the money supply. And to administer the system of controls, this by assisting banks in difficult financial positions. And to manage the markets, and also make sure that the interbank payments are getting cleared.

**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 measures the cash and any other assets held by banks or that are available to quickly make payments and meet short-term financial obligations. It measures how quickly and how easy assets can be converted into any form or means of exchange. Money is the most liquid asset. As it's the easiest and quickest form of payment that can be done. The three main reasons why people prefer to have liquidity according to Keynes, is firstly the transactions demand, this is the easiest form of exchange in daily uses. Individuals prefer liquidity as it gives them a guarantee to have enough cash on hand for daily use. Secondly, precautionary demand, which is used in unexpected times. Individuals prefer to have liquidity in situations where they may need more cash than usual, such as for car or house repairs. Lastly, the speculative demand, this is used for future investment. The speculative demand is the reason for the money demand curve to be downward-sloping as it's affected by the rate of interest, which means that if the demand for speculative notice is high the rate of interest will be lowered making there be a

downward-slope for the money demand curve. The downward slope is because the interest rate will go up, and people will prefer to hold less cash.

**7. How does each of the following 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**

Shift in the money demand curve. This is due to personal reasons, that some have become poor, this could be due to income. It has no change in the interest rate so it would not cause a movement along the money demand curve, but instead a shift in the money demand curve.

**b. Goods become more expensive**

Movement along the money demand curve, this is because when there's an increase in price of goods, the price level increases, which will cause the increase in average interest rates in an economy. And a change due to the change in interest rate will cause a movement along the money demand curve.

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

Shift in the money demand curve, as this change is due to factors that are not related to interest rates, but instead related to preference. People prefer to hold less cash due to debit/credit cards. This is due to personal factors, which will be a shift in the money demand curve and not a movement along the money demand curve.

**d. The central bank decreases interest rate**

Movement along the money demand curve, as the central bank has decided to decrease interest rate. This is a change in interest rate, which will cause the money demand curve to have a movement along the money demand curve.

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

The money supply curve is a vertical line, and this is because money supply is determined by central banks. Central banks set a specific amount of money that will be available without any consideration of the value of the money itself. If there is a change in money demand or a change in the money supply this will affect the change in value of money and the price level. It's not because it depends on the interest rate.

**a. People deposit more money**

By people depositing more money in the bank there will be an increase in the bank's total's reserves. The bank will then keep a portion of the money as required reserves, and loan the excess reserves. Due to the loans there will be an increase in the money supply.

**b. The central bank increases reserve ratio**

If the central banks increase the reserve ratio, which would mean that there are less loans being given out by the bank. This would mean that there is money being taken out of the money supply, this would make an increase in the cost of credit.

**c. The central bank decreases discount rate**

A decrease in discount rate will make it much cheaper for central banks to borrow money, which will result in a rise in available credit and lending. Which means that which means that the supply of money will increase and the supply curve for money will shift to the right.

**d. The central bank decreases interest rate**

If there's a lower interest rate the money supply curve will shift to the right.

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

If central banks decide to lower interest rates to boost the economy. This would be done by the central banks lowering the interest rates, which will lower the financial cost and also encourage and persuade individuals to both borrow and lend money. As the interest rate has a direct effect on consumer behavior, the increase or decrease of it would affect individuals' daily lives. When the central banks lower the interest rate, the ability to borrow becomes cheaper, making purchasing of large sums such as home mortgages, credit card expenses, or any auto loans more affordable. The money market diagram shows how the demand for money and the supply of money interact with one another and how that'll determine the nominal interest rate. On a money market diagram if there is an increase in the supply of money which is due to the central bank lowering interest rate, the line on the money market diagram will be shown as too high.

**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 adjust to reach the equilibrium**

If the current interest rate is higher than the equilibrium rate,  $i > i^*$  This means that people reduce how much cash they hold. The interest rate must reduce to ensure that there is an increase in the quantity of money being demanded.

**11. Write down the equation for the quantity theory of money. Explain how this equation can be used to explain inflation**

The basic equation for the quantity theory of money is the fisher equation.

**Equation:**

$$(M)(V) = (P)(Y)$$

M = money supply (total amount of money in the economy)

V = velocity of circulation (how many times money gets exchanged for goods/services)

P = average price level in the economy

Y = total of monetary transactions

This theory shows the relationship between the money supply and inflation. If there is an increase in money supply that will result in there being an increase in price level and money

supply which would mean that there might be an increase in the printing of money, and too much of that will cause inflation.

**12. Let the money demand function be  $MD = 200 - [1000] i$  and the money supply function be  $MS = 100$**

**a. Calculate the equilibrium interest rate,  $i^*$  [Hint: set  $MD = MS$  and solve for  $i^*$ ]**

$$MS = 12,000$$

$$MD = 50,000$$

$$I = 0.40$$

**b. Suppose the new money demand function becomes  $MD = 400 - [1000] i$ . What can be inferred about the transaction and precautionary demand?**

Transactions and precautionary money demands does not depend on interest rate.