IB Economics SL/HL YR1
Chapter 18: "Monetary Policy" Reading Guide

18.1 ("Interest Rates and the Role of the Central Bank")

Learning outcomes

- Describe the role of central banks as regulators of commercial banks and bankers to governments.
- Explain that central banks are usually made responsible for interest rates and exchange rates in order to achieve macroeconomic objectives.
- Explain, using a demand and supply of money diagram, how equilibrium interest rates are determined, outlining the role of the central bank in influencing the supply of money.

1. **Define**: (a) money. (p. 386)

   Money: a type of wealth that is widely accepted in exchange for goods and services.

2. Explain the three functions that must be fulfilled for something to be considered 'money'. (p. 386)

   - Money must be a medium of exchange
     - Buyers and sellers must be willing to use money as a proxy for later use in other transactions.
   - Money must serve as a unit of account
     - Money must be easily measurable so that everyone understands the value
   - Money must be a store of value
     - You must be able to keep it and use it at a later date. It must hold value, independent of inflation or other changes n the economy, so it must be durable.

3. Distinguish between fiat money and commodity money. (p. 386)

Flat money: most money used today that has little intrinsic value because the materials used are practically worthless but they are deemed to be money because the government declares it so.

Commodity money: type of money that possess some intrinsic value and could be traded as a good in and of itself. A major challenge is when the value of the commodity changes, the value of the money increases or decreases as well

4. Explain the two types of categories of money that the central bank will use to manage the supply of money. (p. 387)

M1: all currency as well as demand deposits. traveller's cheques, and other checkable deposits. Demand deposits, as well as chewable deposits are assets in banks that can be easily be removed from the bank as currency.

M2: includes everything in M! plus less accessible money such as savings deposits. Which depositors can retrieve from the bank with a small penalty or loss of interest. These are timed deposits, which are kept for specified periods, and other similar deposit types.

5. **Define**: (a) central bank, (b) monetary policy, and (c) the money supply. (p. 387)

Central bank: the monetary authority of a country, which performs the functions of issuing currency, managing the money supply and the controlling interest rates.

Monetary policy: the manipulation of the money supply to meet economic goals. Among the primary goals balanced by a central bank are economic growth, employment, and price stability.

Money supply: The combined value of the currency and demand deposits of a country

6. How is monetary policy implemented by the central bank? (p. 387)

Monetary policy is implemented by the central bank by managing interest rates primarily through manipulating the supply of money in the nation's banking system.

7. **Define**: (a) interest rate. (p. 387)

Interest rate: the percentage changed above a loan by banks to the customers who borrow money. the 'price' of the money, how much it costs to use someone else's money to buy a car or a house, or to invest in your business.

8. What will happen to interest rates with a larger money supply? With a smaller money supply? (p. 387)

With a larger money supply, most interest rates throughout the economy will drop, and buying everything with borrowed money becomes cheaper. With a smaller money supply, most interest rates increase, and buying anything with borrowed money becomes more expensive.

9. What forces drive the 'market' for money? (p. 387)

The market for money is driven by the forces f supply and demand. When intervening in the money market, the central bank attempts to either increase or decrease the nominal interest rate that prevails in the economy.

10. **Define**: (a) money demand (be sure to include the terms transactional demand and asset (or speculative) demand in your answer. (p. 388)

Money demand: includes the desire to hold money as an asset and the demand for money as a means to purchase goods and services.

Transaction demand: the desire to buy essential goods and services for daily living, which is relatively stable and autonomous to interest rate changes. It is positively influenced by increased real income and increased inflation.

Asset demand/Speculative demand: beyond transaction demand is the demand for money that is kept as an asset. It is inversely related to the interest rate.

11. What is the relationship between money demand and (a) interest rates and (b) the overall level of national output? (p. 388)

Money demand is inversely related to the interest rate and it increases or decreases with the overall level of national output.

12. Explain the money market diagram below. Make sure your answer is specific and complete. (p. 388)

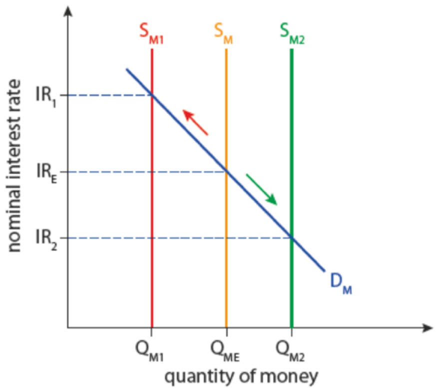
As interest rates rise, the opportunity cost of holding money as an asset increases, Fewer households hold onto cash; instead they deposit it in banks, which offer interest in return for savings. Households deposit money rather than hold onto it as an asset, reducing the quantity of money demanded at a higher interest rate.
When rates fall, opportunity cost of holding money as an asset decreases, thus the quantity of money demanded as an asset increases. More households hold onto cash as an asset since the returns offered by banks and on other investments are less attractive.

Taken together, transaction and asset demand from the total demand for money and are shown as a downward-sloping curve, negatively related to nominal interest rates.

13. How is money supply determined in a nation's economy? (p. 389)

Money supply is determined by the actions of the central bank aimed at increasing or decreasing the overall supply of money available in a nation.

14. Explain the money supply curve below. Make sure your answer is specific and complete. (p. 389)



The money supply curve is completely vertical, and not affected by changes in the interest rates because the central bank determines the supply of money through a variety of monetary policy tools.
The supply curve is perfectly inelastic because the central bank has the authority to set the level of the money supply. It operates independently of the interest rate, in an attempt to establish that rate and thereby either stimulate or contract the overall level of demand in the nation's economy.
An increase or a decrease in the money supply can raise and lower the interest rate as the equilibrium moves up and down along the money demand curve.

15. Distinguish between contractionary and expansionary monetary policy (use the diagram above in your explanation). (p. 389)

Contractionary monetary policy: actions by the central bank to decrease the money supply and increase interest rates. Decreasing the money supply and shifts the S_M to the left, the quantity of money demanded would decrease due to the increased scarcity of money in the economy and the corresponding higher interest rate of IR_1.

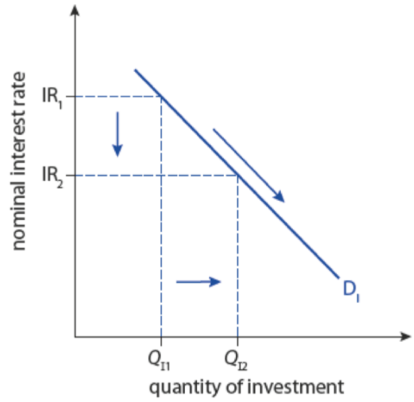
Expansionary monetary policy: actions by the central bank to increase the money supply and reduce interest rates. The supply of money would increase to S_{M2}, the new equilibrium interest rate IR_2 would be lower. Making it cheaper to borrow money, which is now less scarce and in greater amounts in banks' reserve. This would encourage consumption and investment, and likely expand AD and output.

16. What component of GDP is most affected by a change in interest rates? Why? (p. 390)

Net exports are affected but it is relatively much smaller than either consumption or investment. Interest rates most directly affect investment, because firms will choose to borrow if they can earn more than the interest they pay on the borrowed funds. Private investment is the component most highly sensitive to the rate of interest.

17. With the effect of interest rates on investment, describe the diagram below. Make sure your answer is specific and complete. (p. 390)

It is an inverse relationship because firms balance their borrowing decisions against the expected rate of return on the borrowed money. At higher interest rates such as IR_1, less quantity of investment is demanded at Q_{11}. At lower interest rates, more firms are confident they will be able to pay the interest and demand a greater quantity of investment at Q_{12}.

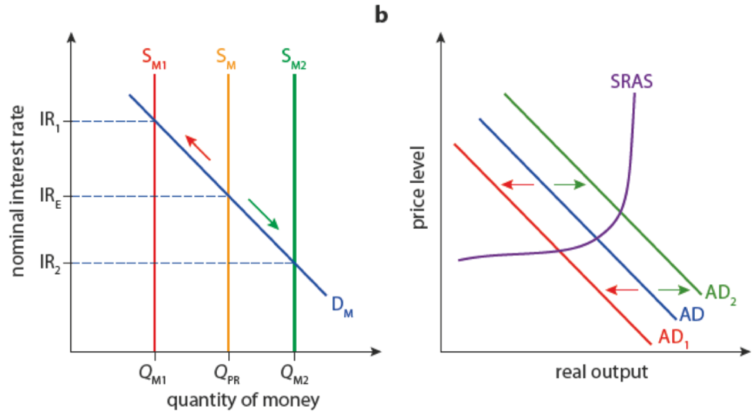


18. In general terms, what impact will limiting the money supply have on private investment and AD? Expanding the money supply? (p. 390)

Limiting the money supply and increasing interest rates reduces private investment and decreases AD
Expanding the money supply and decreasing interest rates expands private investment and expands AD.

19. Explain the desired effects of both lowering and increasing the money supply as illustrated in diagram a and b below. (p. 390)

a b



A contraction of the money supply from S_M to S_{M1} results in a higher interest rate, IR_1. Higher interest rate reduces investment and consumption from AD, moving it back to AD_1.
If the central bank expanded the money supply from S_M to S_{M2}, thus decreasing interest rate from IR_E to IR_2, consumption and investment would increase, pushing AD outwards to AD_2.

20. List, define, and describe the three main monetary tools that a central bank can use to manage the money supply. (pp. 391-392)
    - Changing the discount rate
        - Discount rate: the rate charged by central banks when they make loans to big commercial banks.
        - Changes to the discount rate may have only a minor effect on the money supply, since the central bank is typically the 'lender of last resort' to commercial banks.
        - Changing discount rate and signal is sent to commercial banks that it is OK to increase their own lending activities allows banks to make lower interest loans to borrowers, increasing the money supply and lowering interest rates across the economy.
    - Buying or selling bonds
        - Bond: a certificate issued by a government that guarantees repayment of a principal amount charged with a started rate of interest. Used to raise money initially and the bonds are then traded as a means of investing and saving.
        - Expansionary monetary policy: central bank buys bonds
            - When central bank buys bonds from private banks, it puts cash in to those bank's reserves, increasing the funds available for banks to make loans.
            - By buying up bonds, the central bank has turned a government bond into a demand deposit, which can be spent or withdrawn at any time, it adds to the nation's stock of M1 or M2 money.

- The central banks' excess reserves, incentivizing them to lower the interest rates they charge private borrowers, thereby increasing the level of consumption and investment in the economy.
- Contractionary monetary policy: central bank sells bonds
  - When the central bank sells government bond on the open market, commercial banks' reserves are taken out of the private banking system
  - Private banks will have less money available to loan, and will charge higher rates for what remains.
  - A central bank's sale of bonds reduces the money supply, increasing interest rates and contracting the overall level of consumption and investment in the economy. It puts downward pressure on price levels, output and employment.

- Changing the reserve requirement
  - The reserve requirement: percentage of deposits that banks are required to have available at all times.
  - Any amount held that is beyond the reserve requirement is called excess reserve.
  - If the reserve requirement is raised, banks must keep a higher percentage of their deposits on reserve, and s must reduce the amount loaned out. It reduces the money supply and raises interest rates
  - If the reserve requirement is lowered banks find they have excess reserves beyond the requirement and can loan out the excess reserves. This increase the money supply and lowers the interest rate.