NCERT SOLUTIONS

CLASS - 12th

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Subject : Macroeconomics

Chapter : 6

Chapter Name : Open Economy Macroeconomics

Q1 Differentiate between balance of trade and current account balance.

Answer. The balance of trade and the current account balance have the following differences between them.

Basis	Balance of trade	Current account balance
● Definition	The difference between the exports and imports of a country during a financial year is known as the balance of trade.	The sum total of all visible and invisible transactions between the two economies and the unilateral transactions is known as the current account balance.
● Items included	It includes only those items which are visible.	It includes all visible and invisible items.
● Scope	It has a narrow scope and it is a part of current account.	It has a wider scope and contains the balance of trade.

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Q2 What are official reserve transactions? Explain their importance in the balance of payments.

Answer. The official reserve transactions are those transactions which are made to balance the balance of payments account. These transactions pertain to the addition or withdrawal of reserves from the country's foreign exchange reserves.
When a country has a deficit balance in their BOP account, then to cover the loss, the amount in the foreign exchange reserves is used. If there is a favourable balance, then the foreign exchange reserves will increase.

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Q3 Distinguish between the nominal exchange rate and the real exchange rate. If you were to decide whether to buy domestic goods or foreign goods, which rate would be more relevant? Explain.

Answer. The key differences between the nominal exchange rate and the real exchange rate are as follows -

Basis	Nominal exchange rate	Real exchange rate
1. Definition	It tells how much foreign currency can be purchased in exchange of one unit of the domestic currency.	It tells how much goods and services in the domestic country can be purchased in exchange of the goods and services in the foreign countries.
2. Absolute /Relative	It is an absolute term and isn't dependent upon other variable.	It is a relative term. It varies with the change in the price of goods of any nation.
3. Purchasing power	The purchasing power of money cannot be predicted by the nominal exchange rate.	The purchasing power of money can be correctly determined by the real exchange rate.

For deciding whether to purchase domestic goods or the foreign goods, we should compare the nominal exchange rates. Since, we have to choose whether to spend money in the international or the domestic market, hence we must consider the nominal value of our currency.

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Q4 Suppose it takes 1.25 yen to buy a rupee, and the price level in Japan is 3 and the price level in India is 1.2. Calculate the real exchange rate between India and Japan (the price of Japanese goods in terms of Indian goods). (Hint: First find out the nominal exchange rate as a price of yen in rupees).

Answer. Given that it takes 1.25 yen to buy a rupee. Hence the nominal exchange rate of yen in rupees
= 1/1.25 = 0 8level
Now real exchange rate = Nominal exchange rate × foreign price level / price in India.
= 0.8 × 3/1.2
= 2.

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Q5 Explain the automatic mechanism by which BoP equilibrium was achieved under the gold standard.

Answer. Under the gold standard exchange rate system, all the countries kept the stock of gold with them which served as the base for valuation of the currency of the country against the foreign currencies. The value of gold would determine the value of currency in the market. Under this system, if a country would suffer deficit, then gold will flow outside the economy thereby reducing the prices in the domestic markets. Hence, people could buy low prices goods in the domestic market. So, exports will increase while imports will fall. So, the exports of the country who was previously the exporter for us, will deliver less amount of goods and hence its imports would rise. As a result, the, system gets balanced by the counter payments between the countries.

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Q6 How is the exchange rate determined under a flexible exchange rate regime?

Answer. Flexible exchange rate system is that system of exchange of currency where the value of a currency is determined by its demand and supply in the international market. When some payment is made in the foreign currency or some remittances are made in the foreign currency, then for performing such transactions,we need to get the forex. This constitutes the demand. The demand side is represented by the DD curve in the given diagram. More currency is demanded when the rate of exchange is lower as at that time, people can buy more currency with their fixed amount of domestic currency.
When the foreign currency is received in an economy either by providing goods and services in the international market or in the form of remittances or grants etc., then it constitutes the supply side of the foreign currency. This is represented by the supply curve in which more currency is supplied when rate of exchange is higher while less currency is supplied when rate of exchange is lower.
The point at which the demand and supply curves meet is the equilibrium point. The price at this level is the exchange rate while the quantity supplied will be the quantity corresponding to this level. At this point, the quantity of foreign currency supplied is exactly equal to the quantity demanded.

Fig. 6.1
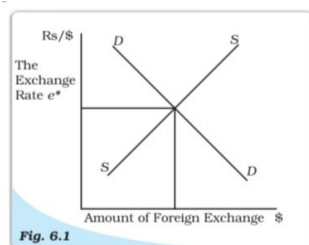Equilibrium under Flexible Exchange Rates

Image source - NCERT

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Q7 Differentiate between devaluation and depreciation.

Answer. The key differences between the devaluation and depreciation are as follows -

Basis	Devaluation	Depreciation
1. Definition	Devaluation is the process of fall in the value of domestic currency due to government intervention.	Depreciation is the process of fall in the value of domes currency due to the market forces of demand and supply.
2. Reason	The fall is caused by a decision of the government.	The fall is caused due to the change in the demand or supply or both the factors.
3. Exchange rate system	This is done in the economies where fixed exchange rate systems prevails.	This is done in the free markets i.e. where floating exchange rate system prevails.

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Q8 Would the central bank need to intervene in a managed floating system? Explain why.

Answer. Managed floating exchange rate system is the mix of fixed exchange rate system and the floating exchange rate system. Under this system, the government may declare certain rules which are to be followed while making transactions.
Under this system, the central bank makes certain official reserves transactions to balance the trade account. The central bank may purchase or sell the foreign currency in order to maintain the exchange rate and stabilise the economy.

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Q9 Are the concepts of demand for domestic goods and domestic demand for goods the same?

Answer. No, these two are entirely different concepts.
Demand for domestic goods refer to that demand which the consumers make in relation to the goods manufactured within the boundaries of a nation. It can be made by the citizens of the country or by foreign citizens as well.

However, domestic demand for goods refer to the aggregate demand for goods made by the citizens of a country. The consumers may demand goods manufactured in India or abroad as well.

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Q10 What is the marginal propensity to import when M = 60 + 0.06Y? What is the relationship between the marginal propensity to import and the aggregate demand function?

Answer. Marginal propensity to import is the change in the imports due to the change in the income from production.
Given, M = 60 + 0.06Y.
Here, Y = Income, Marginal propensity to import = 0.06. The marginal propensity to import is inversely related to the aggregate demand. Hence, if MPI falls, then the aggregate demand would rise. This is so because more the MPI, lesser is the demand for domestically produced goods.

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Q11 Why is the open economy autonomous expenditure multiplier smaller than the closed economy one?

Answer. In a closed economy, when the demand increases, then it is fulfilled by producing goods within the geographical boundaries of the country as there is no export or import. Hence the output increases more in comparison to open economy.
In an open economy,when the demand rises, then it is partially fulfilled by domes production and partially by importing the goods. Hence the output increases at a rate slower than the closed economy.

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Q12 Calculate the open economy multiplier with proportional taxes, T = tY, instead of lump-sum taxes as assumed in the text.

Answer. The equilibrium income when the taxes are given in lump sum is -
Y = C + I + G + X – M
In case taxes are proportional and not paid in lump-sum, then the formula will be changed to -
Y = C + c(1-t)Y + I + G + X - M - mY
Y - c(1-t)Y +mY = C + I + G + X – M
Y(1 - c(1-t) +m) = C + I + G + X – M
Y = (C + I + G + X – M) / (1 - c(1-t) +m)
Hence, this is the equilibrium income in case the taxes are proportional.
Hence, the multiplier = 1/(1 - c(1-t) +m)

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Q13 Suppose C = 40 + 0.8Y D, T = 50, I = 60, G = 40, X = 90, M = 50 + 0.05Y (a) Find equilibrium income. (b) Find the net export balance at equilibrium income (c) What happens to equilibrium income and the net export balance when the government purchases increase from 40 and 50?

Answer. Given,
C = 40 + 0.8Y D, T = 50, I = 60, G = 40, X = 90, M = 50 + 0.05Y
- We have to find the equilibrium income, hence, we will use the following formula -
  Y = C + c(Y - T) + I + G + X – M - mY
  After solving we get -
  Y = (C - cT+ I + G + X – M) /(1- c + m)
  = (40 - 0.8× 50 + 60 + 40 + 90 - 50)/ (1 - 0.8 + 0.05)
  = 140/0.25 = 560.
- Now, we have to find out the exports at New equilibrium price.
  So, we will use the following formula -
  Net exports = X - M - mY
  = 90 - 50 - 0.05 × 560 = 12.
- If G increases from 40 to 50, then the new equilibrium income is -
  Y = (40 - 0.8× 50 + 60 + 50 + 90 - 50)/ (1 - 0.8 + 0.05)
  = 150/ 0.25 = 600.
  Hence, it increased by ₹40.
- Net exports = NX = 90 - 50 - 0.05 × 600
  = 10.

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Q14 In the above example, if exports change to X = 100, find the change in equilibrium income and the net export balance.

Answer. The information given in the above question is -
C = 40 + 0.8Y D, T = 50, I = 60, G = 40, X = 90, M = 50 + 0.05Y
Hence, equilibrium income = (C - cT+ I + G + X – M) /(1- c + m)
Y = (40 - 0.8× 50 + 60 + 40 + 100 - 50)/ (1 - 0.8 + 0.05)
= 150/ 0.25 = 600.
Net export = X – M- 0.05 Y = 100 - 50 - 0.05 x 600
= 20.

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Q15 Suppose the exchange rate between the Rupee and the dollar was Rs. 30=1$ in the year 2010. Suppose the prices have doubled in India over 20 years while they have remained fixed in

USA. What, according to the purchasing power parity theory will be the exchange rate between dollar and rupee in the year 2030.

Answer. In the theory of the purchasing power parity, the exchange rate is determined by the purchasing power of the currency in that country. So, if prices in India have now doubled, then it means that a given sum of money will now be able to purchase only half of the goods which it was able to purchase before 20 years.
The purchasing power of rupee is thereby halved. So, the value of dollar will be doubled i.e. 1$ = 60 rs. This is so because now 2 rs. can purchase the commodity which could earlier be our h for re. 1. Hence, now in order to buy 1 $ earlier costing rs. 30, we need to spend double i.e. Rs. 60.

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Q16 If inflation is higher in country A than in Country B, and the exchange rate between the two countries is fixed, what is likely to happen to the trade balance between the two countries?

Answer. When there is inflation in country A, then the value of their domestic products will rise. So, the country A, in order to save money, will import more goods. Exporting the goods will be costly because it will get goods at higher price and will suffer losses if it sells them in the international markets.
In country B, as the inflation is less, hence it will not import goods. This is so because domestic goods will be cheaper as compared to the imported goods. It will thus emphasise on exporting the goods.
Now, there will be trade deficit in the country A while trade surplus in country B. Hence, the trade balance between the two can't exist.

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Q17 Should a current account deficit be a cause for alarm? Explain.

Answer. Current account deficit refers to that deficit when the country's imports are more than its imports. In this case, it will has to pay more foreign currency and it will receive less currency. The country will have to take more loans in order to meet this deficit which will cause the inflation rate to rise. Hence, the country's imports will further increase and its exports will decline. Hence, the current account deficit is a cause for alarm.

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Q18 Suppose C = 100 + 0.75Y D, I = 500, G = 750, taxes are 20 per cent of income, X = 150, M = 100 + 0.2Y . Calculate equilibrium income, the budget deficit or surplus and the trade deficit or surplus.

Answer. Given,

I = 500, G = 750, X = 150,

C = 100 + 0.75 Y, M = 100 + 0.2Y.

T = 20Y/100 = Y/5.

Equilibrium income (Y) = C + c(Y - T) + I + G + X - M - mY

Y = 100 + 0.75(Y - Y/5) + 500 + 750 + 150 - 100 - 0.2Y

Y = 1400 + 0.75 × 4Y/5 - 0.2Y

Y - 0.6Y + 0.2Y = 1400

0.6Y = 1400

Hence, Y = 1400/ 0.6 = 7000/3.

Government receipts = T = 7000/3/5 = 1400/3

= ₹466.67

Given that the expenditure of government is 750 but its receipts are only 466.67. Hence there is a budgetary deficit.

Now, to find out the trade deficit or surplus, we need to find the net exports.

NX = X - M - mY

= 150 - 100 - 0.2 × 7000/3.

= 50 - 1400/3 = (-) 416.67

Since the net exports is negative, hence the imports are more than exports. So, there exists a trade deficit.

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Q19 Discuss some of the exchange rate arrangements that countries have entered into to bring about stability in their exchange accounts.

Answer. Exchange rate is the amount of foreign currency that could be purchased in exchange of one unit of domestic currency.

There are three types of exchange rate system followed by different countries.
1. Fixed exchange rate system - Under this system, the exchange rate is determined by the government and it remains fixed. There can be two types of fixed exchange rate systems.
    ● Gold standard - Under this system, the value of currency of each nation was to be determined in terms of gold.
    ● Bretton wood exchange rate system - Under this system, the value of currencies was to be determined in terms of the US Dollar.
2. Flexible exchange rate system - Under this system, the value of the currency in the international market is determined by its demand and supply in the markets.
3. Managed floating exchange rate - It is the mix of the fixed and floating exchange rate system. The exchange rate is allowed to fluctuate but only within certain limits determined by the central bank. The central bank keeps the foreign exchange reserves to purchase or sell foreign currency in order to main the prices.

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