Academic Script

Introduction:

The trade undertaken between two or more countries is known as international trade. This trade involves different currency and as a result, the currencies have to be in same form for enabling the exchange of the currency in a smooth manner. This system of exchange of one currency in another is known as the exchange rate mechanism.

In this session, we will see the various methods with the help of which the exchange rate is determined. The system of exchange rate determination is the backbone of the international trade. This system also enables the determination of transaction cost for the parties. If the exchange rate system is effective and efficient, then the international trade would also be efficient.

International financial system: past, present and future

Over a period of time many systems were tried to enable the international trade to be effective and efficient. The system adopted at a given point of time was influenced by the economic and political situations prevailing during that period. The exchange rate regime can be broadly divided into two different types:

1. Fixed exchange rate mechanism
2. Flexible exchange rate mechanism

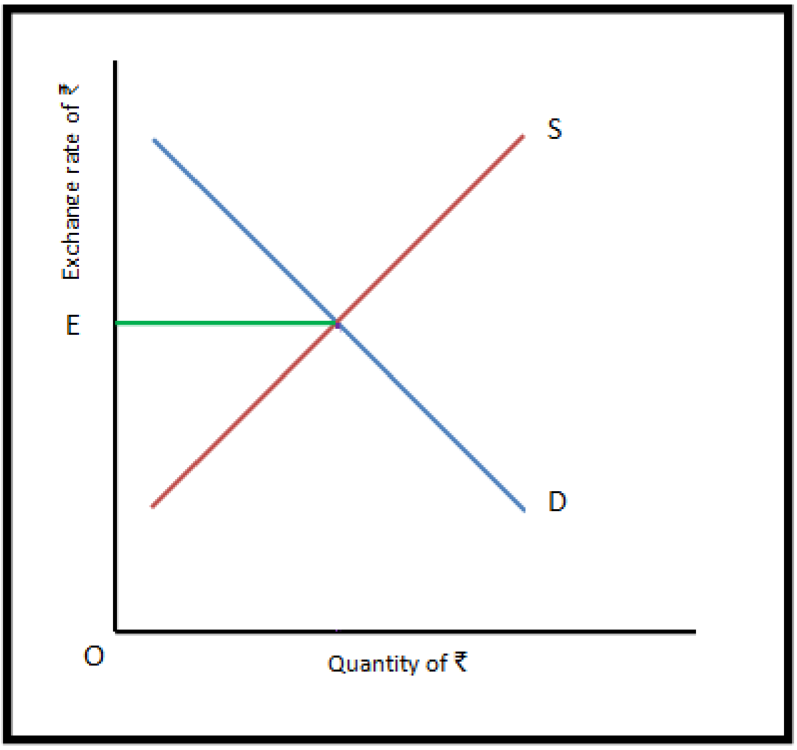
Let us understand these before we proceed to the various exchange rate mechanisms

1. Fixed Exchange Rate Mechanism:

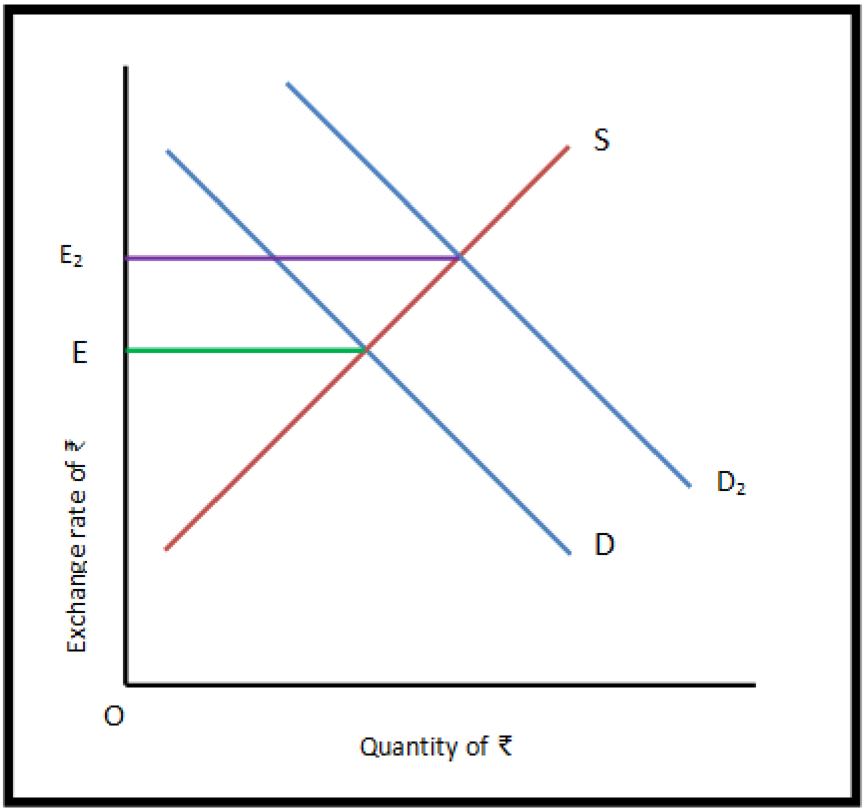
The system is characterized by the fact that the exchange rate of one currency against the other currency is determined by the rates that have been decided by the monetary authorities. This rate is determined by the authorities either by legislation or through intervention in the foreign exchange market. In order to fix the rate of their currency against the other currency, the central banks would be holding reserves of the other currency.

Let us understand as to how the exchange rate in the fixed exchange regime is maintained at an equilibrium level by the monetary authority.

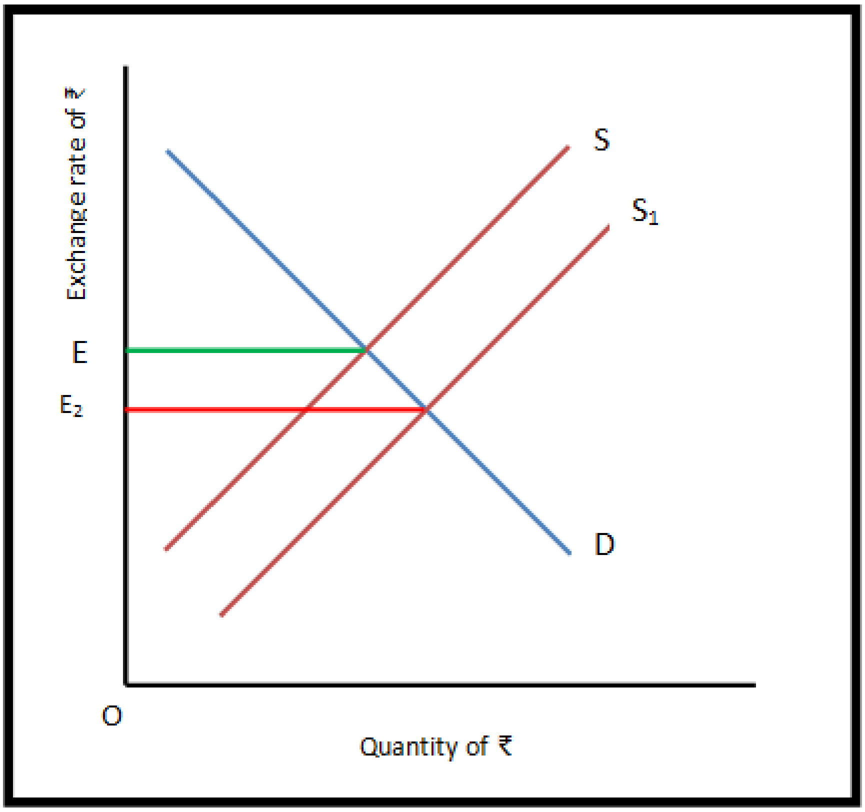
Assume that the demand curve for the Indian Rupee is D and the supply curve is S. so the exchange rate that is determined is E, which the authority has to maintain.



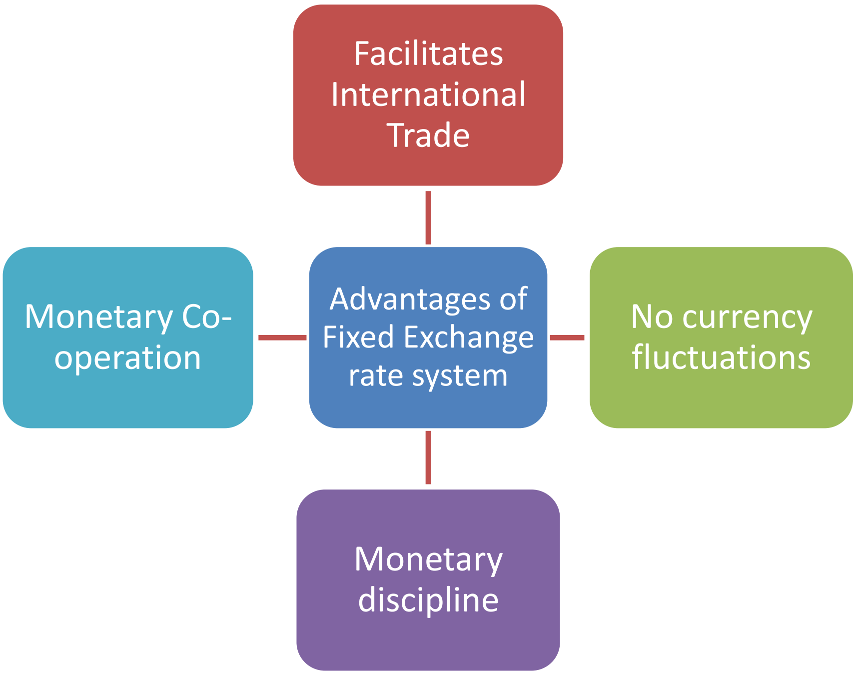
Now let us assume due to increase in demand, the demand curve for Indian Rupee has shifted to a higher level at D_1 but the supply remains constant then the exchange rate which would be arrived at would increase to E_2. Now to maintain the exchange rate at E, the monetary authority has to release the Indian Rupee so that the demand can be met and the exchange rate could be brought back to E as the increase in supply will allow the establishment of equilibrium.



Now let us assume that the demand of Indian Rupee remains the same but the supply increases from S to S_1, then the exchange rate that is determined would reduce to E_1. At this point, the monetary authority will have to reduce the supply of Indian Rupees from the market by buying the excess Indian Rupees so that the equilibrium can be again established.



The fixed exchange rate have various advantages if adopted as a mechanism to determine the exchange rate which are:



1. Facilitates international trade:

One of the advantage of adopting this as an exchange mechanism is that all the exchange rates are based on a common currency and the values are also fixed against all other currency, it becomes easier to predict the value of the goods that are going to be exchanged between the trading parties. As a result, by adopting fixed exchange rate economic integration is promoted and the international trade between the countries increases.

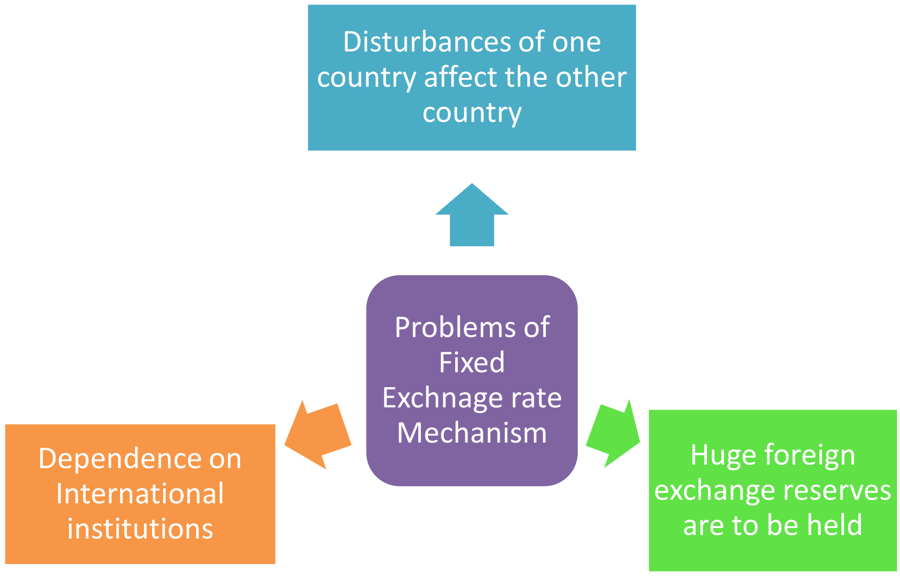
2. Currency fluctuations are not there:

The rates of one currency are fixed against the other currency and the monetary authorities ensure that the currency remains stable at that rates only. As a result, the people have a confidence in the currency that they are holding.

3. Monetary discipline is ensured:
By adopting fixed exchange rates, the monetary authorities are disciplined and have to ensure that their policies are not inflationary. Moreover, the deficits of the Government are also controlled.

4. Enhanced Monetary Cooperation:
Monetary cooperation is ensured as the countries would be able to undertake trade with the other countries easily. This is so because, trading parties are assured regarding the value of the currency in which they are undertaking the transactions. Moreover as the exchange rates do not fluctuate, the countries maintain continuing relations with each other without worrying about the fluctuations in the exchange rates.

On the other side, if the fixed exchange rate regime is adopted, the following problems would be experienced by the various countries involved:



1. Disturbances of one country affects other countries:
In the fixed exchange rate regime, one country determines the value of its currency against the other country's currency. It might be possible that the problems in one country affect the activities of the other country. Say for example, that one country is not able to maintain the supply of its own currency then such excess money which is in circulation would leak out of that country and enter other countries. When such a thing happens, the exchange rate equilibrium which was there in the other countries is disturbed as well. As a result, adverse results of wrongful policy measure by one country would have an adverse impact on the exchange rate of the other country.

2. Burden of holding huge foreign exchange reserves:
The central bank of any country is required to hold foreign exchange reserves to control and contain the fluctuations of its currency against the other currencies. As a result, this imposes a heavy burden on the monetary authorities of the country.

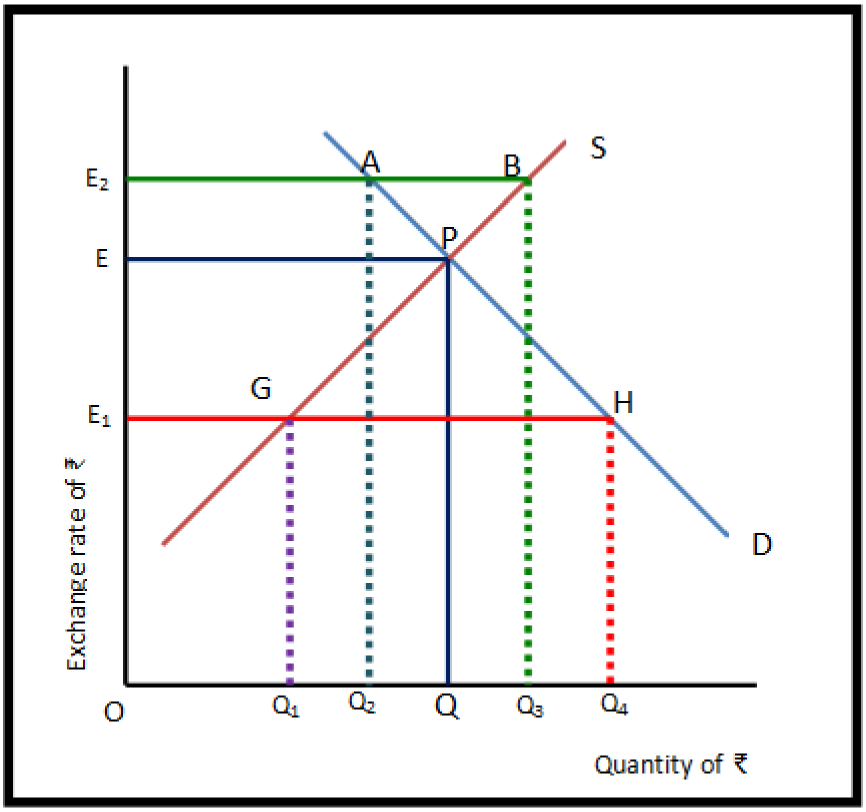
3. Dependence on International Institutions:
By adopting the fixed exchange rate regime, the countries have to maintain a fixed foreign exchange reserve. When they experience a shortfall in these reserves, they have to borrow the money from the international organizations to fulfill these shortfalls. As a result, the countries may lose their sovereignty.

2. Flexible exchange rates

The exchange rate regime, wherein the rates are determined by the market forces of demand and supply is known as flexible exchange rate. In order to manage the exchange rates, the monetary authority does not intervene. In case if the supply of any one currency increases, the value of that currency will fall against the other currencies and as a result, there would be depreciation of the exchange rate. A new equilibrium would be established due to this.

On the other hand, if there is a shortfall in the supply of the currency, then the value of the currency would fall which would lead to appreciation in the exchange rate. At no point, would the monetary authority intervene in the determination of the exchange rate.

Let us understand as to how the exchange rates are determined under the flexible exchange rate regime:

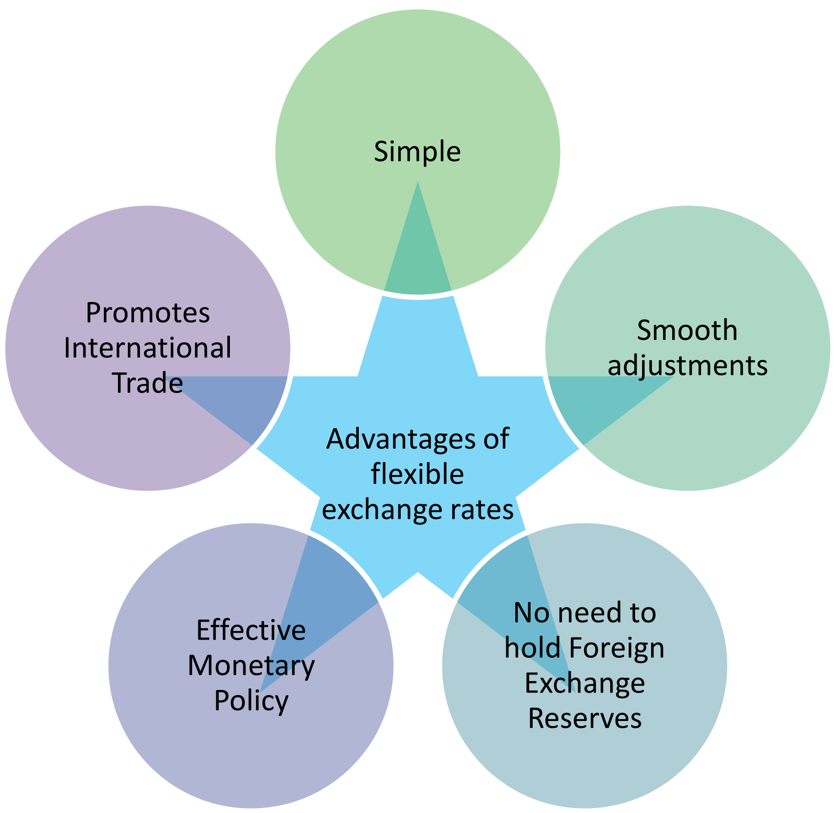


Here in the figure, D and S are the demand and supply curves of Indian Rupee. Here when they both intersect, an equilibrium is established at point P and the exchange rate which is determined is E.

Suppose, the exchange rate due to some circumstances rises from E to E_2. Now as soon as the price increases, the people who were holding Indian Rupee in the international foreign exchange market would release the rupees in the market to obtain a benefit of the increase in the exchange rate. Now the actual supply required is of OQ_2. As a result, due to the excess supply of the Rupee in the market, the exchange rate would again come down to the level of E and attain equilibrium.

Now if the exchange rate falls down to E_1, the quantity demanded would increase from OQ_2 to OQ_4. But the quantity supplied is OQ_1. As a result, the exchange rate increases to E and once again attains equilibrium.

This exchange rate regime has many advantages few of them being:



1. Simple to operate:
This exchange rate regime is simple in its operating mechanism. It is so that the demand and supply self adjusts itself and the equilibrium is established without any intervention from the monetary authorities. The price changes also have not been introduced in order to establish equilibrium in the foreign exchange market.

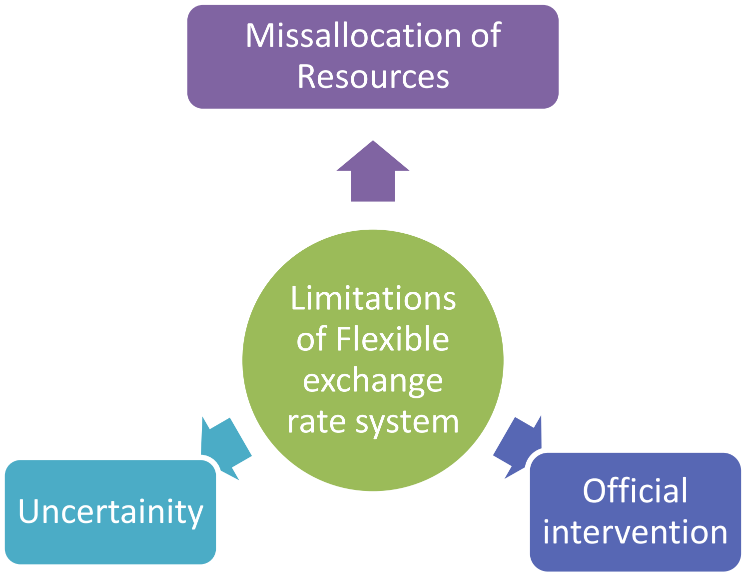
2. Smooth adjustments:
The equilibrium of the exchange rates are maintained in the foreign exchange markets without any adjustments in the exchange rate. This is so because, the market forces adjust themselves accordingly and thereby help establishment of the equilibrium. In case if any disequilibrium is observed, the corrective measures are taken by these forces and again equilibrium is restored in the markets. As a result, the adjustments in the market are smoother and the authorities of the respective countries do not have to indulge in any type of corrective measures.

3. No need for foreign exchange reserves:
The countries do not have to hold foreign exchange reserves as they are free from the hassle of controlling and fixing the exchange rate of their currency against the other currencies. moreover they are also free from the burden of ensuring that the exchange rate of their currency remains same against the other currencies for which they had to hold on to huge foreign exchange reserves. The country whose currency is on deficit as compared to other currencies will allow its currency to depreciate to attain an equilibrium rate.

4. Effective Monetary Policy:
The monetary policy of the countries become more effective. This is so because, if a country wants to increase its output, it will have to just lower its interest rates. This would result in an outflow of capital and this would in turn increase the rate of the currency in the spot market. As a result, the exports of the country increases and the imports would reduce. Any country which wants to reduce their inflation would adopt a reverse policy, whereby it would increase the interest rates and would be able to contain the inflation.

5. Promotes international trade:
This system also ensures that the international trade between the different parties continues. This is so because, the market forces adjust the prices of the currency against the other currency and as a result, the currencies would never be over or under valued.

On the other side, there are some limitations of this system.



It might be possible that the exchange rate that has been arrived by using the flexible exchange rate might not be appropriate. This might lead the parties concerned to use additional resources which might have been put to use somewhere else. As a result, the critical resources are wrongly allocated.

2. Official intervention:
It is not always true that the exchange rates which are determined are free from any type of government influence. Even though direct influence of the government might not be there, somehow the policies of the government has an influence on the exchange rate that is determined. Say for example, due to favorable policies of the government the savings of the people of that country have increased. This means that the country can become an investor abroad. Now let us assume that the domestic currency is flowing out of the

country. It means that the supply of the domestic currency in the foreign exchange market increases. Due to the increase in the supply of domestic currency, its exchange rate falls down.

Sometimes it can also happen that two opposing countries try to influence the exchange rate prices to obtain favourable terms from the remaining countries. It might be possible that retaliation of some sort would be done by the other countries as well which might result in an exchange rate war among the countries. So in order to avoid such situations, some sort of an agreement would be there among the various countries.

3. Exchange rate risk and uncertainty:
Under this system, the exchange rate varies frequently and as a result, all the parties involved are exposed to risks and uncertainty. These in turn hamper the development of international trade and restrict the movement of capital from one country to another. Say for example, India enters into a contract with Spain and promises to pay the amount of transaction in Euros. Now let us say that the exchange rate moves to a higher rate on the day when the transaction has to be honored. Due to this increase in the exchange rate, the party who is in India would have to pay a higher amount. Such type of fluctuations also hampers the establishment of long term relations between two countries and as a result, the trade between the two parties does not develop.

The exchange rate systems which were adopted can be classified in these two systems only. Now let us understand as to over the period of time which are the various regimes which were followed to determine the rate of one currency against another.

Gold standard

One of the oldest systems for the exchange of one currency against the other was the gold standard. It was introduced for the first time in Great Britain in 1844. The currency of a country was expressed in terms of a specific unit of gold. The currency of the country is backed by the gold reserves of that country. The standard unit of the currency is fixed according to the value of the fixed quantity of gold. So essentially, it is a fixed exchange rate regime. The policy makers under this system had to ensure that sharp fluctuations in the balance of payments are not observed by ensuring that the gold reserves of the central bank neither increased nor decreased rapidly.

One of the features of this system was that the currency is freely convertible at home as well as abroad for the value that has been fixed. The rate at which the currency is determined would be the cost of shipping the gold from one country to another. When this system was introduced, Britain and other developed countries used pure gold standard and the exchange rates were determined accordingly.

For example if One US Dollar was worth 40 grains of gold and One Indian Rupee was worth 2 grains of gold, then if someone in India wants to exchange Indian Rupee with US Dollar, then he will have to exchange 20Indian Rupees against 1 US Dollar. This method of exchange rate determination is also known as the mint par of exchange

➡ 40 grains of gold

1 US Dollar

➡ 2 grains of gold

1 Indian Rupee

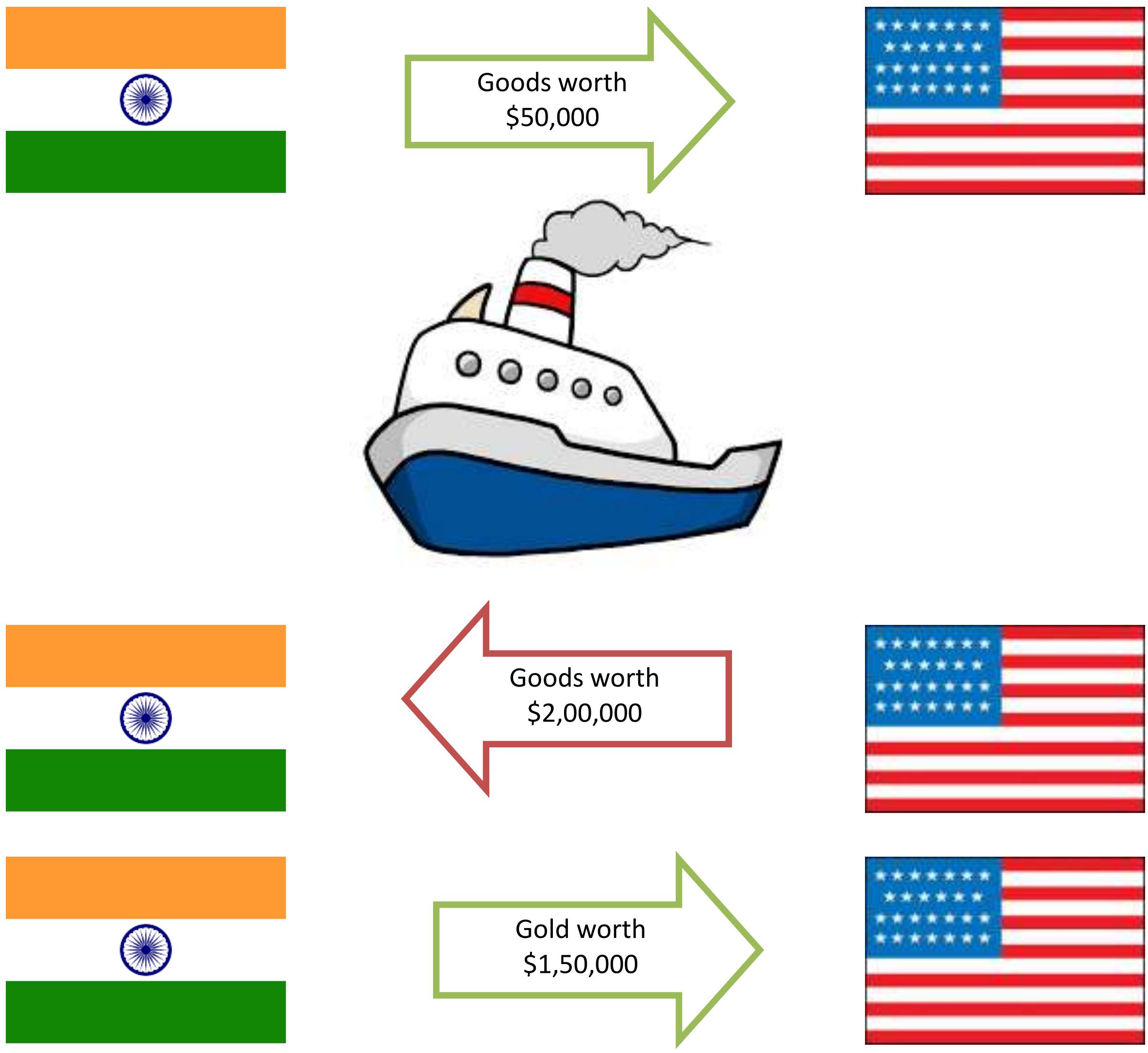
Then 20 Indian Rupees have to be exchanged to get 1 US Dollars

One of the advantage of this system was that the exchange rates remained stable during this period as any deviation caused would be corrected automatically by the movement of gold between the countries involved.

At the time when gold standard was used as a system to determine the exchange rates, the trading between the various nations was also settled using this method. The countries which were importing more than they were exporting had to ship gold out of their country.

Let us understand this with the help of an example:

India imports goods worth 2 lakh US Dollar from USA and has exported goods worth 50 thousand US Dollars. This means that India has a trade deficit of 1 lakh 50 thousand US Dollars. So as a result, India will have to ship gold worth 1 lakh 50 thousand US dollars to USA to cover the trade deficit. This gold that is shipped by India will be used by the US Government to issue more US Dollars.



This system survived up till 1914 as the countries believed that it was the best system and were prepared for free movement of gold from one country to another. But the situation changed once first World War began. The countries were not willing to allow the free movement of gold from one country to another. Moreover the countries which were involved in the war prevented the conversion of their currency into gold or other currency. These policies which were adopted by the various countries led to the downfall of the gold currency standard system.

The First world war led to the withdrawal of gold as a currency and a medium of exchange. In order to finance the war expenses, the countries involved replaced the gold in circulation with currency notes. By the end of the First World

War majority of the countries were experiencing inflation in their economies.

When the war ended, an International Conference at Brussels was held in 1922 wherein it was decided that a modified version of the gold standard system would enable the countries to contain the inflation in their economies. As a result, a new exchange regime was put into place which is referred as the Gold Bullion Standard.

Under this mechanism, the paper currency replaced the gold that was in circulation and the gold was held just as a reserve for the currency that is in circulation. Banks of the respective countries exchanged their currency for gold but only if the requirement is in large quantities. The gold was freely exported and imported from one country to another.

One of the limitations of this system was that as the value of the currency was delinked from the value of the gold, the value of one currency against the other currency became difficult to determine. Moreover, this system was also not effective as it was adopted during the post war era wherein all the countries had a feeling of increased nationalism and tried to compete with the other countries by indulging in open market operations which hindered with the gold-money relationship.

Majority of the countries were debt ridden and were unable to repay them. The central banks of the countries resorted to strict credit controls to contain the inflation in their economies. Import tariffs were also levied by many economies to revive their domestic industries again. Due to all these situations, the gold bullion standard was renounced by Britain in 1931, by America in 1933 and by France in 1933. With this the gold standard system era came to an end.

Gold exchange standard –

Under this system, a reserve currency is chosen and all the other countries would fix their exchange rates to the reserve currency at the announced rates. In order to maintain the stability of the exchange rates, all the countries needed to hold some assets which were denominated in the reserve currency.

The country whose currency has been accepted as a reserve currency had to determine the value of its currency in terms of gold. Such a country also needs to agree that it would exchange gold which is held by the other central banks for the reserve currency as and when the demand arises.

For example: Let us assume that all the countries of the world have agreed to accept US Dollar as a reserve currency. The exchange rate decided by the United States is as under

1 US Dollar = Rs. 50 .

In order to maintain this fixed exchange rate, the Reserve Bank of India would stand to exchange Dollars for Rupees when demanded at a specific exchange rate. In order to meet the demand of the Dollars, the Reserve Bank of India has to hold foreign currency reserves denominated in Dollars.

This system formed the basis on which the Bretton Woods system was based.

Conclusion:

In this session we studied the various exchange rate regimes. The first regime that we covered was the fixed exchange rate regime wherein the exchange rate is determined with the help of intervention by the monetary authorities of the country such as the Central bank. We also covered the various advantages and limitations of the fixed exchange system. Then we saw the floating rate exchange mechanism wherein the exchange rate was determined according to the market forces of demand and supply. We also saw the benefits and limitations of this system. Then we proceeded to see two exchange rate regimes which were adopted to determine the exchange rates of the various currencies. The oldest regime was the gold standard system where the exchange rate was determined by fixing the value of each currency against some quantity of Gold.

Then we proceeded to understand the Gold exchange rate standard where the rate of a reserve currency was fixed against gold and the rate of other currencies was determined against the reserve currency. In the next sessions we will cover the further developments in the exchange rate determination mechanism. I hope that you have understood the mechanism that we have covered in this session. Thank you for joining us.