

The Mundell Fleming Model



Macroeconomics -I

Lesson: The Mundell Fleming Model

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The Mundell Fleming Model

TABLE OF CONTENTS

CHAPTER: THE MUNDELL FLEMING MODEL

Section Number and Heading	Page Number
<i>Learning Objectives</i>	3
1. Introduction	3
2. Exchange rates	3
2.1 Fixed exchange rate	4
2.2 Flexible/ floating exchange rate	4
2.3 Clean floating exchange rate	4
2.4 Dirty floating exchange rate	4
2.5 The long run exchange rate	5
3. Balance of payments	6
4. Capital mobility	7
5. Equilibrium in goods market and money market	8
5.1 Effects on market equilibrium	10
5.2 The repercussion effects	10
6. Capital mobility and balance of payments	11
6.1 External and Internal balance	12
7. The Mundell-Fleming model	13
7.1 Case I: Perfect capital mobility and fixed exchange rate	13
7.2 Case II: Perfect capital mobility and flexible exchange rate	15
7.3 The policy begger-thy-neighbour	18
<i>Practice Questions</i>	19

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The Mundell Fleming Model

Learning Objectives

This chapter will discuss the basic Mundell Fleming model. Here, you will learn the different types of exchange rates, the dynamics of Balance of Payments (BOPs) and mobility in the Capital markets in an open economy. Apart from this, you will learn the equilibrium in goods market and money market in case of open economy and also learn about policies such as Beggar-Thy-Neighbour. The Mundell Fleming model is formulated in the scenario of perfect capital mobility under different exchange rate systems. The chapter concludes with practice questions which will help you to test your concepts learned from this chapter.

1. Introduction

In today's world, economies are opening to rest of the world and globalization is taking place at a higher pace. Whenever economies open up, they become highly inter-related with one another through trade in goods and services and flow of finance or capital from one to the other. These two channels of linkages have strong effects on the growth, development and policies of an economy. To study these effects, the basic IS-LM model of income-determination has to be modified to include both effects of trade and capital. Before going into detailed analysis of IS-LM model in the case of open economy, let's first study various exchange rates, dynamics of Balance of Payments and capital mobility.

2. Exchange Rates

An exchange rate is defined as the value or price of one country's currency in terms of the other country's currency. For example, the exchange rate of Rupee in terms of Dollars is around Rs 61 per US \$. This is the nominal exchange which keeps on changing from time to time depending upon the market conditions of the two economies. Let's denote nominal exchange rate by e . Here, $e = \text{Rs } 61/\text{\$}$ which means 1 US \$ can buy Rs 61 in India. In other words, a Rupee can buy $1/61 = 0.016$ \$ in US. There are different types of exchange rates which are as follows:

2.1 FIXED EXCHANGE RATE

The Mundell Fleming Model

An exchange rate is said to be fixed whenever its value is fixed by the concerned authorities and the central bank of the economy stands ready to buy and sell its currency in the market at a fixed price in order to maintain the fixed exchange rate of its currency with respect to another currency.

Since, the Central Bank has to keep the exchange rate fixed; it has to hold excess reserves in form of foreign currencies so that in the times of need it can buy or sell these foreign currencies in exchange for its own domestic currency. With these excess reserves, the Central bank can intervene in the market to keep the exchange rate fixed.

Whenever there is excess demand of foreign currency in the economy, the Central Bank can sell the foreign currency and purchase the domestic currency keeping the exchange rate constant. Similarly, in case of excess supply of foreign currency, the Central Bank can buy this foreign currency and sell the domestic currency in the market, thereby again maintaining the exchange rate. However, without the excess reserves, the Central bank can not intervene in the market and hence cannot maintain the exchange rate at a constant price.

2.2 FLEXIBLE/FLOATING EXCHANGE RATE

An exchange rate is said to be flexible whenever its value is determined by the market forces of demand and supply. Flexible exchange rate is also known as floating exchange rate system. Here, the central bank has to allow exchange rate to adjust to the market conditions prevailing in the economy. The central bank of a particular country does not have to intervene in the market as is the case in fixed exchange rate system.

2.3 CLEAN FLOATING EXCHANGE RATE

Whenever the Central bank of the country do not intervene in the foreign exchange markets, in other words do not buy or sell currencies in the market, and allow the exchange rate to be determined freely by the market forces of demand and supply in the economy then the system is called clean floating exchange rate system.

2.4 DIRTY FLOATING EXCHANGE RATE

Dirty floating exchange rate system is also called managed floating exchange rate system where the central bank intervenes in the foreign exchange markets by buying or selling the foreign currencies. In such a case, the exchange rate is managed or influenced by the intervention of the Central bank in the markets.

The Mundell Fleming Model

Apart from the different types of exchange rates prevailing in the economy, there are also various terms associated with the exchange rates. These are devaluation, revaluation, depreciation and appreciation. A domestic currency is said to be depreciated whenever the foreign currency becomes more expensive in terms of domestic currency. For example, if the nominal exchange rate between Rupee and dollar changes from Rs 61/ \$ to Rs 65/ \$ then Rupee is said to be depreciated. This is because now more rupees are required to buy one US dollar. Similarly, a domestic currency appreciates whenever it becomes expensive in terms of the foreign currency. Example, if the nominal exchange rate between Rupee and dollar changes from Rs 61/ \$ to Rs 58/ \$, then Rupee is said to be appreciated because now less rupees are required to buy one US dollar. A currency appreciates or depreciates only under the system of flexible exchange rate.

The terms devaluation and revaluation takes place under the system of fixed exchange rate. A currency is devalued whenever its price is lowered by the central bank in terms of the foreign currency. Similarly a currency is revalued whenever its price is raised by the central bank with respect to the foreign currency. In case of devaluation of domestic currency, the residents of the domestic country pay more to buy the foreign currencies and the foreigners pay less for the domestic currency.

2.5 THE LONG RUN EXCHANGE RATE

The exchange rate in the long run between two currencies is decided by the relative purchasing power of the currency in the two countries. Here, we make use of the theory called purchasing power parity (PPP) according to which if two currencies are able to buy the same basket of goods in their country and in foreign country then two currencies are said to be at purchasing power parity. The relative competitiveness or purchasing power of currencies among countries is given by the Real Exchange Rate. The real exchange rate is denoted by R, and it is defined as the ratio of foreign prices to domestic prices where prices are expressed in the same currency. The real exchange rate, R, is given by:

$$R = \frac{e.P_f}{P}$$

Where e is the nominal exchange rate, P is domestic price and P_f is the foreign price.

For example, if e is the nominal exchange rate between rupee and dollar then P_f is the prices in dollar and $e.P_f$ will give the prices in US measured in rupees. P will be the prices in rupees in India implying the real exchange rate gives the prices in US relative to prices in India.

The Mundell Fleming Model

If $R > 1$, then $e.P_f > P$. This means the domestic goods are relatively cheaper as compared to the foreign goods and so the domestic goods are more competitive. This in turn increases the demand for such goods and therefore the exports of domestic country rises.

On the other hand, if $R < 1$, then $e.P_f < P$ and so the domestic goods are relatively expensive as compared to the foreign goods reducing their demand and hence the exports of domestic country will fall and imports will rise.

Lastly, if $R = 1$, then $e.P_f = P$. This imply both currencies are equally competitive that is they are able to buy same basket of goods in both countries and hence are at purchasing power parity. The PPP does not necessarily imply that $R = 1$ since both P and P_f are the prices of goods in two different countries. So, when the real exchange rate is above its Long run level then PPP implies that the exchange rate will decline in future and vice versa. The

3. Balance Of Payments

The balance of payments takes into account the transactions of the residents of a country with all the other foreign countries. When the residents of the domestic country make payment to the rest of the world then there is deficit in the domestic country's balance of payments. Similarly, when the foreigners spend on the items of the domestic country then there is surplus in the domestic country's balance of payment. Thus, imports and exports respectively are the deficit and the surplus items in the balance of payments. The balance of payments consists of two main accounts which are:

- The current account, and
- The capital account.

The current account includes the trade in goods and services and also includes the transfer payments. This means that the current account comprises of:

- 1) The balance of trade or the trade balance which is the trade in goods or exports and imports of goods.
- 2) Trade in services or exports and imports of services which include interest payments, royalty payments and freight.
- 3) Transfer payments which include gifts, grants and remittances.

$$\Rightarrow \text{Current Account} = \text{Exports} - (\text{Imports} + \text{Net Transfer Payments to foreign country})$$

The Mundell Fleming Model

When exports are greater than imports and net transfer payments to foreigners then current account is said to be in surplus. This is because the payments made by the country are less than the receipts of the country. Similarly, there is current account deficit whenever the payments made by the country are more than the receipts of the country.

The **capital account** consists of sale and purchase of assets such as bonds, stocks and land. If the purchase of assets exceeds the sale of assets, there is outflow of capital and hence capital account deficit. Similarly, if the sale of assets exceeds the purchase of assets then there is capital inflow and capital account surplus.

A country's external account must always balance that is if there is deficit in current account then it must be financed by the sale of assets or borrowing from abroad or running down foreign exchange reserves by the central bank of the country to cover the current account deficit. The sale of assets in turn implies capital inflow and hence there is capital account surplus.

⇒ **Current account deficit + capital account surplus = 0 or external account balance.**

Similarly, if there is current account surplus there will be purchase of assets implying capital outflow and hence capital account deficit. This means when one account is in surplus the other account is in deficit precisely to the same extent resulting into zero overall balance of payments. The balance of payment is said to be in surplus when there is current account surplus and net capital inflow.

4. Capital Mobility

Due to globalization, there is integration of financial or capital markets in the international economies at a larger scale. Thus, it is not difficult in today's time to hold assets in foreign countries. People hold assets in foreign countries whenever they get a higher return on these assets as compared to the returns on the assets in their own country. However, the extent to which people hold assets abroad depends largely on the ongoing exchange rate. The interest rates on the assets across countries differ due to reasons such as differences in tax, the exchange rates, the obstacles put up by the country on the capital going out of the country, etc.

The ease with which the capital moves across the borders of the countries is called **capital mobility**. In this chapter, to simplify analysis, we are assuming that there is perfect capital

The Mundell Fleming Model

mobility. Perfect capital mobility means that the capital can move freely across the borders of the countries or there are no restrictions on the capital flow across the countries. Investors can purchase assets anywhere in the world with small transaction cost and can also purchase these assets in large volumes.

The capital is said to be perfectly mobile under the following conditions:

- same taxes in different countries,
- fixed exchange rate, and
- No political uncertainty.

In the case of perfect capital mobility, the interest rate on assets in the domestic country (i) will be same as interest rate in the foreign country (i_f). In other words,

$$i = i_f$$

This means that, in the scenario of high degree integration of capital market globally, a country's rate of interest will eventually moves towards the world's level of interest rate through changes in the capital flows.

5. Equilibrium In Goods Market And Money Market

To find equilibrium in goods and money market, IS-LM model will be taken into account assuming that the level of price is given and output demanded is same as output supplied. The spending done on domestic goods will now be determining the domestic output because foreigners spends their income on domestic output in form of exports whereas the domestic residents spends their income on foreign output in form of imports. Thus spending on domestic goods is given by-

$$\begin{aligned} \text{Spending on domestic goods} &= (\text{spending by domestic residents}) + (\text{net exports}) \\ &= (C + I + G) + (EX - IM) = \text{Aggregate demand} \end{aligned}$$

Where C stands for consumption, I stands for investment, G for government expenditure, EX for exports and IM for imports.

Spending by domestic residents (A) depends upon both the income of the residents (Y) and the rate of interest (i), that is

$$A = A(Y, i)$$

The Mundell Fleming Model

The net exports of a country equal exports minus imports. The exports depend upon the foreign income and real exchange rate whereas the imports depend upon the domestic income and real exchange rate. In other words,

$$\text{Net exports (NX)} = \text{EX}(Y_f, R) - \text{IM}(Y, R) = \text{NX}(Y_f, Y, R)$$

Where Y_f means foreign income, Y means the domestic income and R means real exchange rate.

When the foreign income increases, there will be more spending by foreigners on domestic output implying increase in exports and hence increase in net exports and aggregate demand of the country, other things being equal.

When the domestic income increases, then domestic residents will spend more on foreign goods which in turn imply increase in imports and hence a decline in net exports and aggregate demand of the country, other things being.

An increase in R implies real depreciation which in turn improves exports of the country and reduces imports of the country. Therefore the net exports and the aggregate demand of the country increases, other things being.

The **IS curve** shows combinations of output or income and the rate of interest such that the aggregate demand equal the aggregate supply in the economy. In the closed economy, IS schedule depends only on consumption expenditure, investment and government expenditure. But in the open economy, IS schedule depends also on the net exports of the country. Thus,

$$\text{IS curve: Aggregate demand} = Y = A(Y, i) + \text{NX}(Y_f, Y, R)$$

Therefore, the IS curve depends upon the domestic income, rate of interest, foreign income and the real exchange rate. The **LM curve** shows combinations of income and rate of interest where money supply is same as demand for money. The IS curve is downward sloping and the LM curve is upward sloping. The market equilibrium occurs at the point where the IS and LM curves intersect.

5.1 EFFECTS ON MARKET EQUILIBRIUM

Given the above formulated IS-LM framework, we arrive at the following results:

The Mundell Fleming Model

- An increase in foreign income: This will increase exports and hence the net exports will increase and so the aggregate demand will also rise. The IS curve will shift upwards and the market equilibrium shifts from the point E to E₁ with increased rate of interest and increased income. This is shown in the following figure 1.

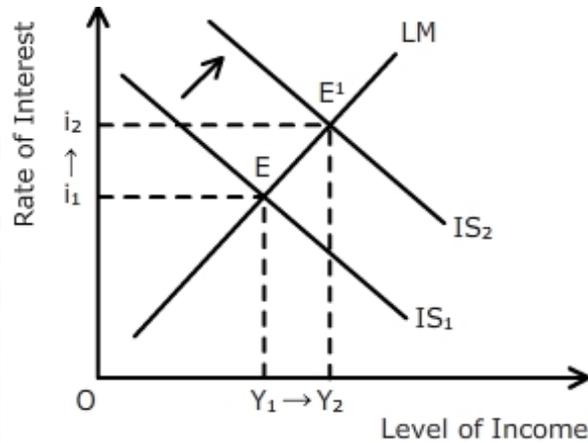


Figure 1

- An increase in R: This implies real depreciation of the domestic currency which in turn makes domestic goods more competitive in the market as compared to the foreign goods. In response to this, the exports of the country rises and the imports of the country fall. The net exports improve and the aggregate demand of the country increases. The IS curve will shift upwards resulting into an increase in equilibrium rate of interest and equilibrium income. The figure will be same as the figure 1.
- An increase in domestic income: The rise in domestic income will increase imports of the country thereby worsening the net exports or trade balance but at the same time it will increase domestic spending by residents (A). The net effect on the aggregate demand and hence on IS curve will be ambiguous. The IS curve will shift upwards if increase in A dominates the fall in net exports and vice versa.

5.2 THE REPERCUSSION EFFECTS

Any kind of changes in domestic policy also affects the other countries. For example, an expansionary fiscal policy where the government increases its expenditure increases the domestic income which in turn increases imports of the country. The increase in imports implies increased foreign income because this means increase in spending on foreign goods which will increase income in the foreign country. An increased foreign income will then lead to increased spending on domestic goods and hence the exports of the country rises adding

The Mundell Fleming Model

to the expansion of domestic income and this process continues. Thus expansionary fiscal policy in the domestic country has a positive impact on the other countries.

However, any change in domestic policy resulting into the depreciation of the domestic currency will have a negative impact on the other countries. This is because the depreciation of the domestic currency makes domestic goods more competitive in comparison to the foreign goods in the market. This leads to increase in exports and a decline in imports of the country, improving the net exports of the country. The increase in exports in turn increases the domestic income and the domestic employment. However, the fall in imports results into fall in foreign income and hence employment in the foreign country.

6. Capital Mobility And Balance Of Payments

The balance of payments comprises of the current account and the capital account. In other words, it consists of the net exports and capital flows. Assuming given demand for exports, given import price, given world rate of interest (i_f) and perfect capital mobility, balance of payments is given by:

$$\text{Balance of Payments: BoP} = \text{NX} (Y_f, Y, R) + \text{CF} (i - i_f)$$

Where CF = capital flows or stands for capital account.

This equation shows that balance of payment is a function of foreign income, domestic income, real exchange rate and the difference between the domestic and the foreign rate of interest (also known as interest differential). Perfect capital mobility means when the domestic rate of interest (i) exceeds foreign rate of interest (i_f), there will be unlimited flow of capital into the domestic country and vice-versa. Any change in the parameters of balance of payments will result into changes in the net exports and the capital flows in such a way that balance of payments remains in equilibrium. For example, when the domestic income increases the net exports decline due to increased spending on imports, however increased domestic income leads to higher spending due to which the IS curve shifts up resulting into higher domestic rate of interest. This increased domestic rate of interest above foreign rate of interest brings capital from rest of the world thereby improving the capital account. The decline in the net exports would then be compensated by the rise in capital inflows maintaining balance of payments equilibrium.

6.1 EXTERNAL AND INTERNAL BALANCE

The Mundell Fleming Model

Various countries face policy dilemma in terms of their internal and external balance. The internal balance refers to output at full employment level whereas the external balance refers to balance of payments equal to zero. The balance of payment is equal to 0 due to the assumption of perfect capital mobility. This dilemma sometimes happens due to clashes between the internal and external balance goals of the country. Both the internal and external balances are shown in figure 2. $BoP=0$ is a horizontal line showing balance of payments equilibrium where the domestic and the foreign rate of interests are equal. The internal balance is shown by the vertical line at Y^* which is the full employment level of output. All the points above $BoP=0$ line are points where $i > i_f$ implying at all these points there will be capital inflows or surplus in capital account. Similarly, points below $BoP=0$ shows $i < i_f$ implying capital outflows or deficit in capital account. Points to the left of Y^* shows under-employment and points to the right of Y^* shows over-employment of resources. The point E in figure 2 is the only point where there is both internal and external balance. Point such as A represents underemployment and deficit in the balance of payment whereas point such as B represents surplus in the balance of payment and over-employment.

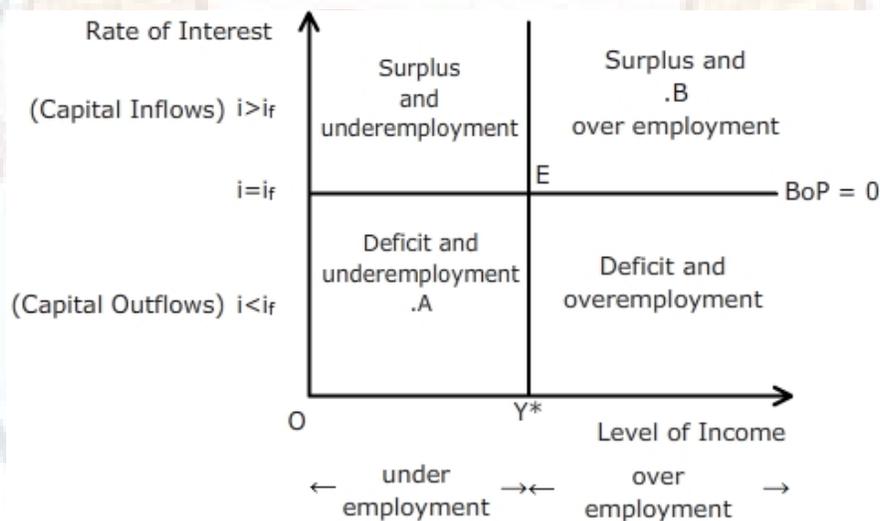


Figure 2

If an economy is at the point say A where there is under-employment and deficit in balance of payments then an expansionary monetary policy would result into policy dilemma since the policy will help in increasing employment but at the same time would worsen the balance of payment deficit. This is because expansionary monetary policy shifts LM curve downwards resulting into an increase in income but a decline in the rate of interest. Thus, the policy even though would help in maintaining the internal balance but would not achieve

The Mundell Fleming Model

the external balance. However, an expansionary fiscal policy shifts IS curve upwards resulting into increase in both the output and the rate of interest thus moving the economy more towards the point E. Therefore, depending upon where the economy is in the four quadrants of figure 2, a mix of both monetary and fiscal policies would be required to achieve both internal and external balance of the economy but that would again depend upon the regime of exchange rate prevailing in the economy.

7. The Mundell-Fleming Model

The analysis of Mundell-Fleming model is done with the help of IS-LM framework under the assumption of perfect capital mobility. This model is basically used to understand how the policies in the economy will work in an environment of high capital mobility. The analysis of this model in this chapter will be done under the two cases of fixed exchange rate and flexible exchange rate.

7.1 CASE I: PERFECT CAPITAL MOBILITY AND FIXED EXCHANGE RATE

Under this case, a country cannot hold independent monetary policy because the policy has no effect on the output whereas the fiscal policy proves to be an effective tool to achieve the desired level of output. Thus, fiscal policy in such a scenario is preferred over the monetary policy. This is shown in the following figures (Figure 3 and Figure 4):

An **expansionary monetary policy** is shown in figure 3 which results a downward shift in LM curve from LM_1 to LM_2 . The equilibrium point shifts from E to E_1 leading to increase in output but a decline in the domestic rate of interest. Point E corresponds to balance of payments equilibrium where $i = i_f$, but point E_1 corresponds to a point where $i < i_f$ implying deficit in the balance of payments. Therefore, at E_1 there will be huge capital outflows leading to deficit in the capital account which in turn will increase the demand for foreign currency. So the price of foreign currency will increase leading to its appreciation and thus a depreciation of the domestic currency. In order to keep the exchange rate fixed, the Central bank will start selling the foreign currency and buying the domestic currency had. But, the buying of domestic currency reduces its supply in the economy till $i = i_f$, leading to shifting up of LM curve back from LM_2 to LM_1 . Thus the economy shifts back from the point E_1 to the initial point E.

Similarly, in the case of contractionary monetary policy, there will be an upward shift in LM curve leading to a higher domestic rate of interest implying capital inflows. This in turn increases the demand for the domestic currency and thus domestic currency appreciates

The Mundell Fleming Model

while foreign currency depreciates. The central bank, again to maintain the fixed exchange rate, will supply more domestic currency in exchange for the foreign currency. The money supply in the economy will increase and the LM curve will shift downwards leaving the economy at the initial point E. This shows that the monetary policy in this scenario is ineffective to achieve the desired output goals of the economy.

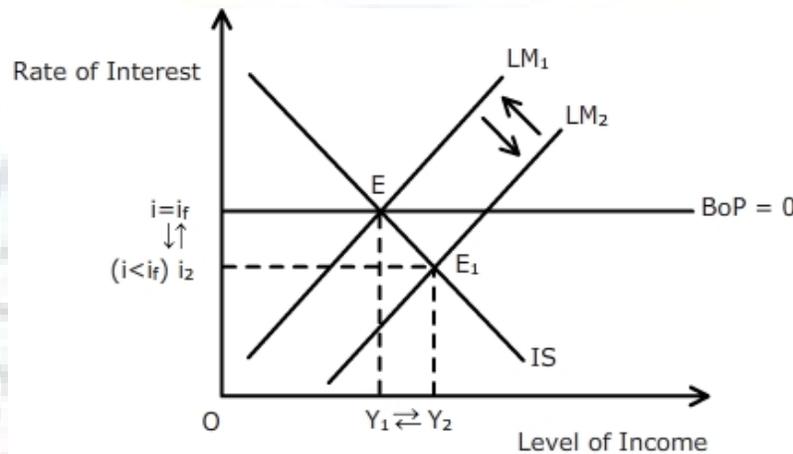


Figure 3

An **expansionary fiscal policy**, on the other hand, shifts the IS curve upwards moving the economy from the initial point E to the new point E₁. This is shown in figure 4. At E₁, $i > i_f$, that is there is surplus in the balance of payments resulting into capital inflows. This surplus in the capital account increases the demand for the domestic currency resulting into its appreciation and corresponding depreciation of foreign currency. The central bank, in order to maintain the fixed exchange rate, starts selling the domestic currency and buying the foreign currency. This in turn increases the money supply in the economy due to which the LM curve shifts downward till $i = i_f$. This shift is shown in figure 4 from LM₁ to LM₂, and the economy moves from the point E₁ to E₂. At E₂, the balance of payments is in equilibrium and output in the economy increases from Y₁ to Y₂. The opposite happens in the case of contractionary fiscal policy where output in the economy declines. This shows that the fiscal policy is very effective in achieving desired level of output when the exchange rate is fixed and capital is perfectly mobile.

The Mundell Fleming Model

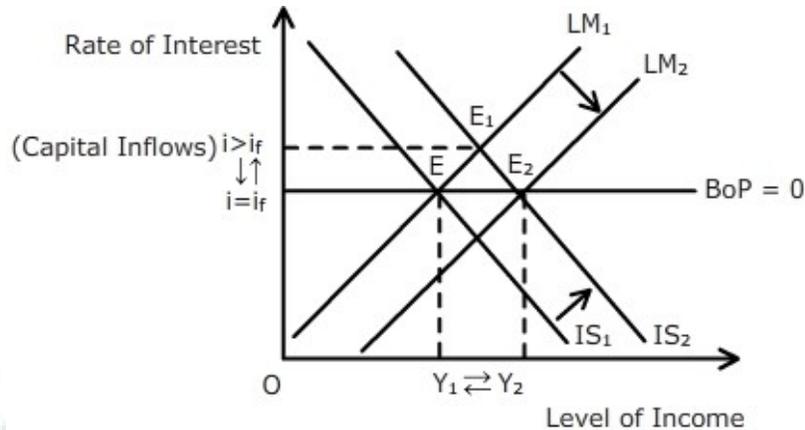


Figure 4

The monetary policy is ineffective in this case due to the commitment to make sure that the exchange rate remains fixed in the economy which more or less makes the money supply endogenous. This is because the central bank has to intervene in the foreign exchange market by buying and selling the domestic and the foreign currencies in order to keep the exchange rate fixed. This limits the central bank's ability to control or change the money supply in the economy.

7.2 CASE II: PERFECT CAPITAL MOBILITY AND FLEXIBLE EXCHANGE RATE

In this case, apart from assuming perfect capital mobility and flexible exchange rate, another assumption of fixed domestic prices is made. Here, as opposite to the case of fixed exchange rate, the monetary policy turns out to be an effective tool to achieve the desired level of output whereas fiscal policy remains to be ineffective.

Since the exchange rate in the economy is flexible the central bank needs not intervene in the foreign exchange markets because the exchange rate is determined by the free forces of demand and supply in the foreign exchange market. This has following two implications which are:

- Since, the Central bank does not intervene in the foreign exchange market, the balance of payment remains in equilibrium that is the balance of payments equal zero. In other words, a surplus in the current account will be compensated by capital outflows whereas deficit in the current account will be compensated by capital inflows. This is because the exchange rate is flexible and so adjusts as per the demand and supply in the foreign exchange market which in turn keeps the balance of payment in equilibrium.

The Mundell Fleming Model

- The central bank need not worry about the exchange rate because it's no longer fixed and thus the central bank can control or change the money supply in the economy.

Before considering the effects of fiscal and monetary policies in the economy, let's first analyze how changes in exchange rate and exogenous change in demand for domestic goods from rest of the world affects the economy.

Suppose there is **real depreciation** of the domestic currency in the economy. This means there is an increase in R which implies that the domestic goods are now more competitive as compared to the foreign goods. This will increase the exports of the country and reduces its imports thereby increasing the net exports. An increase in net exports shifts the IS curve upwards and the economy moves from point E to E_1 . At E_1 , $i > i_f$ which results into capital inflows and hence increase in the demand for domestic currency. Thus, the domestic currency appreciates leading to a fall in exports and a rise in imports or a decline in net exports which in turn shifts the IS curve downwards, shifting the economy back to the initial point E . So, there is no change in the domestic rate of interest as well as output. This mechanism is shown in following figure 5.

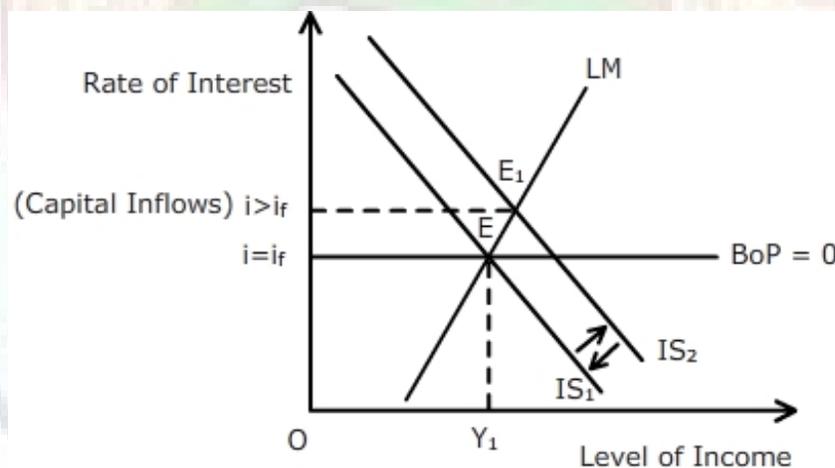


Figure 5

An exogenous rise in demand for domestic goods from rest of the world increases the domestic exports which shifts IS curve upwards. This means that at new point $i > i_f$ leading to capital inflows. The corresponding capital inflows results into appreciation of the home currency reducing exports and increasing imports. The net export starts to decline and IS curve starts to shift back. This downward shifting continues till $i = i_f$, and economy moves back along the LM curve to the initial point E. The figure will be same as figure 5.

The Mundell Fleming Model

Now, consider **expansionary fiscal policy**. This policy works just like the real depreciation that this after expansionary fiscal policy there is no change in the domestic rate of interest and the level of output in the economy. This is because this policy shifts the IS curve upwards and the economy from the point E to E_1 . The Figure is same as the figure 5. Again at the new point, there are capital inflows resulting into appreciation of the domestic currency and so the exports falls and imports increases which worsens the Current account. Due to this the IS curve shifts back and the economy moves back to the initial point E. Since the output remains unchanged, the fiscal policy remains an ineffective tool in this scenario. Similarly, the output remains unchanged in the case of contractionary fiscal policy.

The monetary policy, on the other hand, turns out to be an effective policy to change output level in the economy. Consider, for example, expansionary monetary policy which shifts the LM curve downwards due to increase in money supply in the economy. The shift is shown in the following figure 6. The economy shifts from the point E to point E_1 where $i < i_f$. There will be capital outflows resulting into increase in demand for foreign currency and so foreign currency appreciates and the domestic currency depreciates. This depreciation leads to an increased exports and reduced imports, increasing the net exports of the economy and hence the IS curve shift upwards and economy moves from point E_1 to E_2 where $i = i_f$ and output increases from Y_1 to Y_2 . Opposite happens in the case of contractionary monetary policy. Thus, monetary policy is able to change the output level in the economy and so it is preferred over fiscal policy.

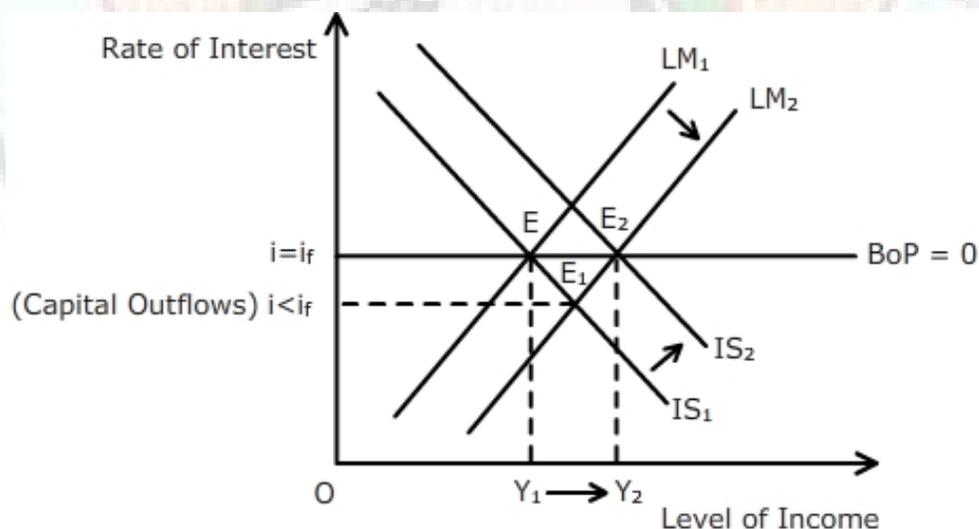


Figure 6

The Mundell Fleming Model

7.3 THE POLICY BEGGER-THY-NEIGHOUR

This policy relates to depreciation of the currency in an economy. Assuming perfect capital mobility and flexible exchange rate, an expansionary monetary policy results into downward shifting of the LM curve which in turn to capital outflows. The domestic currency depreciates in such a case due to which net exports rises and hence the IS curve shifts up resulting into increased output and hence employment. However, the depreciation of domestic currency implies increased spending from foreign countries on the domestic goods which in turn reduces the demand for foreign goods leading to a decline in foreign income. As foreign income decline, the foreign output and hence foreign employment also declines. Due to this negative impact of domestic currency depreciation on output and employment of the foreign country, the policy of depreciation is called beggar thy neighbor. This is because the output and employment of domestic economy is increasing at the expense of output and employment of the foreign economy. In other words, it is like exporting unemployment to foreign countries. Here, the depreciation of domestic currency is not generating any additional world demand for its goods, but in fact is shifting the world demand towards its goods at the expense of other countries. Thus, the monetary and fiscal policies should be used to increase the demand for goods and output in an economy rather than the policy of depreciation of the economy's currency.

The Mundell Fleming Model

Practice Questions

Q1) Differentiate between the followings:

- (i) fixed and flexible exchange rate
- (ii) Clean and dirty exchange rate
- (iii) Depreciation and Devaluation
- (iv) Internal and External Balance

Q2) what do you mean by perfect capital mobility? What happens to the Balance of Payments when capital is perfectly mobile?

Q3) Show the effects of following on market equilibrium with help of diagrams:

- (i) Real appreciation of home currency
- (ii) Decline in the foreign income

Q4) Briefly explain why the following arguments are true or false:

- (i) The beggar-thy-neighbour policy helps in increasing the total world demand for goods.
- (ii) If rupee-dollar exchange rate rises, then the rupee has depreciated.
- (iii) An increase in government expenditure shifts the IS curve downwards.

Q5) Assuming perfect capital mobility and fixed exchange rate, show that the monetary policy is no longer independent policy.

Q6) Under flexible exchange rate, fixed domestic prices and perfect capital mobility, what will happen to the rate of interest and the level of output if government increases its expenditure?

Q7) Explain why the monetary policy is an effective policy when there is perfect capital mobility and flexible exchange rate.

Q8) In Mundell-Fleming model, when exchange rate is fixed and capital is perfectly mobile, fiscal policy is preferred over monetary policy. Explain

Q9) Why an expansion in money supply do not achieve internal and external balance in the economy if the economy is facing surplus in balance of payments and overemployment of resources?

The Mundell Fleming Model

Q10) Briefly explain repercussion effects of policies undertaken by an economy on the rest of the world.

