




Chapter 4

Monetary and Fiscal Policies in IS-LM Framework



CHAPTER-4

MONETARY AND FISCAL POLICIES IN IS-LM FRAMEWORK

4.1 INTRODUCTION

Since World War II, government policymakers have tried to promote high employment without causing inflation. If the economy experiences a recession, policy makers have to follow two principle sets of tools that they can use to affect aggregate economic activity. Monetary policy, the control of interest rates or the money supply, and fiscal policy, the control of government spending and taxes.

The adjustment policies which are used to achieve full employment with price stability and equilibrium in the balance of payments. The economist most responsible for shifting the emphasis from automatic adjustment mechanisms to adjustment policies was James Meade.

The most important economic goals or objectives of nations are –

- 1) Internal balance
- 2) External balance
- 3) A reasonable rate of growth,
- 4) An equitable distribution of income, and
- 5) Adequate protection of the environment

Internal balance refers to full employment or a rate of unemployment of no more than, say 4-5 percent per year and a rate of

inflation of no more than 2 or 3 percent per year. External balance refers to equilibrium in the balance of payments, In general, nations place priority on internal over external balance, but they are sometimes forced to switch their priority when faced with large and persistent external imbalances.

To achieve these objectives, nations have the following policy instruments at their disposal:

- 1) Expenditure - changing or demand policies
- 2) Expenditure - switching policies and
- 3) Direct controls

Expenditure – changing policies include both fiscal and monetary policies. Fiscal policy refers to changes in government expenditures, taxes, or both. Fiscal policy is expansionary if government expenditures are increased and taxes reduced. These actions lead to an expansion of domestic production and income through a multiplier process and induce a rise in imports. Contractionary fiscal policy refers to a reduction in government expenditures or an increase in taxes, both of which reduce domestic production and income and induce a fall in imports.

Monetary policy involves a change in the nation's money supply that affects domestic interest rates. Monetary policy is easy if the money supply is increased and interest rates fall. This includes an increase in the level of investment and income in the nation (through the multiplier process) and induces imports to rise. At the same time, the reduction in the interest rate induces, a short term capital outflow or reduced inflow. On the other hand, tight monetary policy refers to a reduction in the

nation's money supply and a rise in the interest rate. This discourages investment, income and imports, and also leads to a short term capital inflow or reduced outflow.

Expenditure switching policies refer to changes in the exchange rate (i.e. a devaluation or revaluation). A devaluation switches expenditure from foreign to domestic commodities and can be used to correct a deficit in the nation's balance of payments. But it also increases domestic production, and this induces a rise in imports, which neutralizes a part of the original improvement in the trade balance. A revaluation switches expenditures from domestic to foreign products and can be used to correct a surplus in the nation's balance of payments. This also reduces domestic production and consequently, induces a decline in imports, which neutralizes part of the effect of the revaluation.

Direct controls consist of tariffs, quotas and other restrictions on the flow of international trade and capital. These are also expenditure switching policies, but they can be aimed at specific balance of payments items. Direct controls in the form of price and wage controls can also be used to stem domestic inflation when other policies fail.

4.2 IS-LM FRAMEWORK

The role of monetary variables in the Keynesian model was first pointed out by Nobel laureate John R. Hicks in 1937. It has been shown by J.R. Hicks and others that with greater insights into the Keynesian theory one finds that the changes in income caused by changes in investment or propensity to consume in the goods market also influence the determination of interest in the money market. The level of income

which depends on the investment and consumption demand determines the transaction demand for money which affects the rate of interest. Hicks, Hansen, Lerner and Johnson have put forward a complete and integrated model based on the Keynesian framework where in the variables such as investment, national income, rate of interest, demand for and supply of money are interrelated and mutually interdependent and can be represented by the two curves called the IS and LM curves.

The IS-LM model is the basic model of aggregate demand that incorporates the money market as well as the goods market. It lays particular stress on the channels through which monetary and fiscal policy affect the economy. The IS-LM model is a standard tool of macroeconomic that demonstrates the relationship between interest rates and real output in the goods and services market and the money market. The intersection of the IS and LM curves is the "General Equilibrium" where there is simultaneous equilibrium in both markets.

4.3 EQUILIBRIUM IN A CLOSED ECONOMY

The general equilibrium model of the economy comprises of the two parts. The first part brings together the determinants of equilibrium in the real sector or the goods market of the economy. The second part brings together the determinants of equilibrium in the money market or the monetary sector of the economy. The equilibrium in the real sector is defined in terms of the equality between the aggregate saving and aggregate investment corresponding to that aggregate real income where aggregate saving equals the aggregate Investment ($S=I$), the aggregate demand for goods just equals the aggregate supply of goods in the economy, i.e. $C+I=Y$ thus, the economy's real sector is in equilibrium at

this level of aggregate real income. The equilibrium of the economy's money market requires equality between the total supply of money and the total demand for money. The equality between the total supply of and demand for money furnishes us with the equilibrium rate of interest. Thus, the monetary sector of the economy will be in equilibrium at that rate of interest corresponding to which the total demand for money equals the total supply of money, i.e. where $M_d = M_s$.

The equilibrium aggregate income corresponding to which the aggregate saving equals the aggregate investment, i.e., $S = I$, partly depends, on the conditions in the monetary sector. Similarly the equilibrium rate of interest at which the total demand for money and the total supply of money are in equilibrium, i.e., $M_d = M_s$, partly depends on the conditions in the real sector or the goods market.

4.3.1 Goods Market Equilibrium: IS Curve

The goods market includes trade in all goods and services that the economy produces at a particular point in time. If the real commodity markets are in equilibrium, the investment demand for internal and external funds and the internal and external supply of saving, both in real terms, must also be equal to each other. This equilibrium condition in the commodity markets may be summarized in an IS schedule. The IS curve is the schedule of combinations of the interest rate and level of income such that the goods market is in equilibrium. The goods market is in equilibrium whenever the quantity of goods and services demanded equals the quantity supplied, or when injections into the system equal leakages. Increases in the interest rate reduce aggregate demand by reducing investment spending. Thus, at higher interest rates, the level of

income at which the goods market is in equilibrium is lower. The IS curve relates different equilibrium level of national income with various rates of interest. The IS curve is negatively sloped because an increase in the interest rate reduces planned investment spending and therefore reduces aggregate demand, thus reducing the equilibrium level of income.

IS CURVE

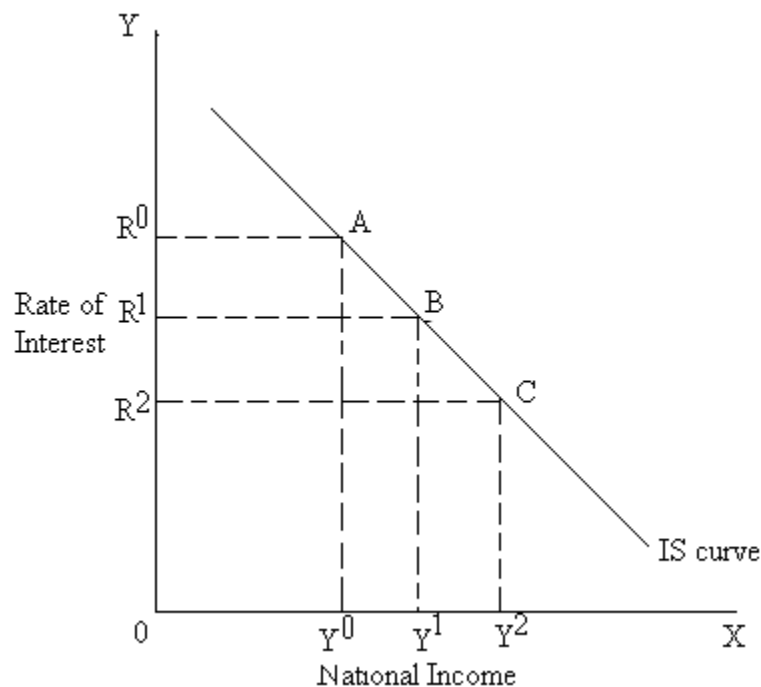


Figure 4.1 : IS Curve

The IS curve relates different equilibrium levels of national income with various rates of Interest. The goods market is in equilibrium whenever the quantities of goods and services demanded and supplied are equal. The IS curve describes equilibrium points in the goods market. The combinations of aggregate output and interest rate for which aggregate output produced equals aggregate demand.

Factors Causing a Shift in IS Curve

The IS curve shifts whenever a change in autonomous factors occurs that is unrelated to the interest rate. The IS curve is shifted by changes in autonomous spending. An increase in autonomous spending, including an increase in government purchases, shifts the IS curve out to the right.

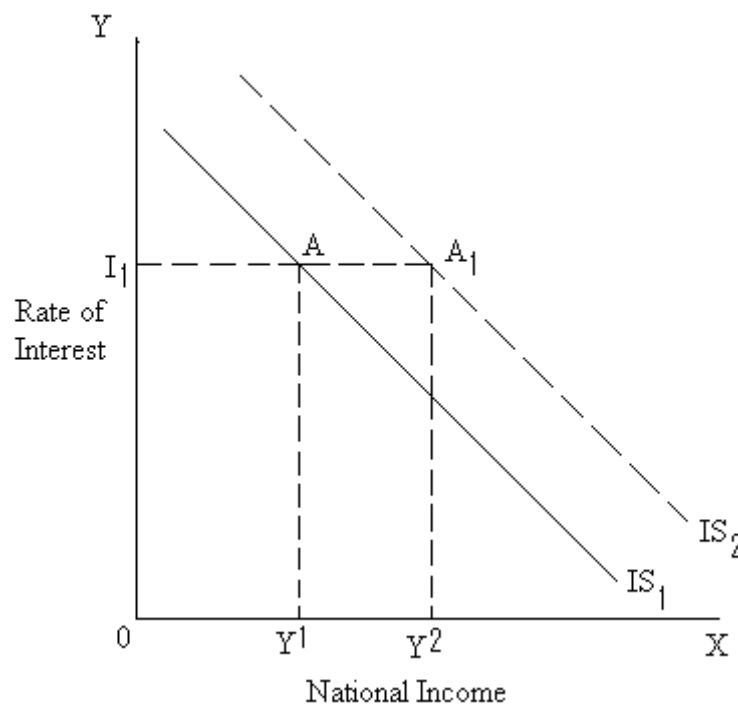


Figure 4.2 : Shifted IS Curve

The IS curve will shift from IS_1 to IS_2 as a result of i) an increase in autonomous consumer spending, ii) an increase in planned investment spending due to business optimism, iii) an increase in government spending, iv) a decrease in taxes, or v) an increase in net exports that is unrelated to interest rates. These changes shift the aggregate demand function or IS curve upward and raise equilibrium output from Y^1 to Y^2 .

4.3.2 Money Market Equilibrium : LM Curve

The LM curve shows combinations of interest rates and levels of output such that money demand equals money supply. Money is demanded for transactions and speculative purposes. The transaction demand for money consists of the active working balances held for the purpose of making business payments as they become due. The transaction demand for money is positively related to the level of national income. The speculative demand for money arises from the desire to hold money balances instead of interest-bearing securities. However, the higher the rate of Interest, the smaller is the quantity of money demanded for speculative or liquidity purposes because the cost of holding inactive money balances is greater.

The condition for monetary equilibrium is that the demand for money is equal to the supply of money. The supply of money is assumed by some monetary theorists to be exogenously determined by the central bank. When the money market is in equilibrium, the demand for money and the supply of money are equal to each other and may be shown as an LM schedule. This LM schedule relates different rates of interest and different levels of national income where the demand and supply of money are in equilibrium.

The LM curve is positively sloped. Given the fixed money supply, an increase in the level of income, which increases the quantity of money demanded, has to be accompanied by an increase in the interest rate. This reduces the quantity of money demanded and thereby maintains money market equilibrium.

LM CURVE

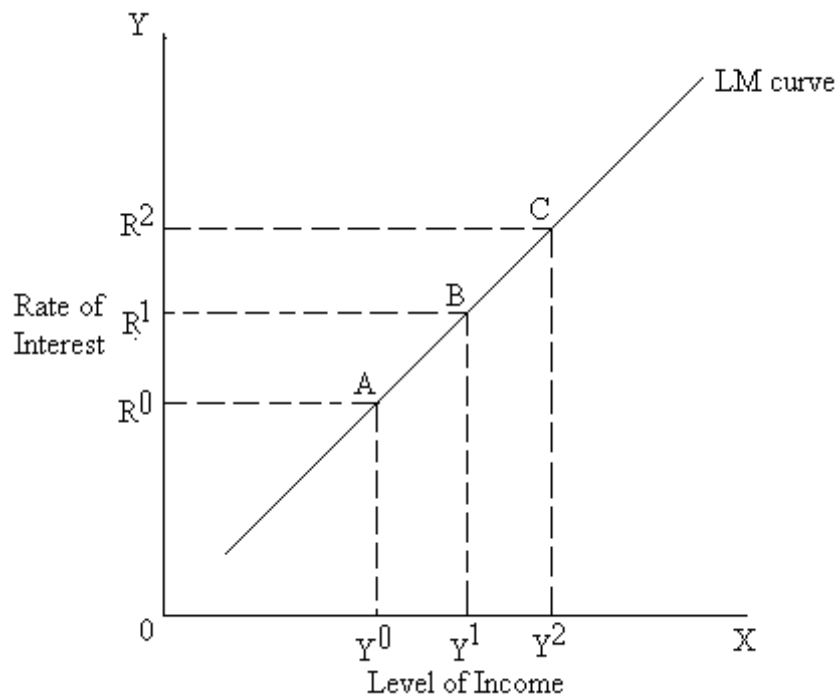


Figure 4.3 : LM Curve

The LM curve relates the level of income with the rate of interest which is determined by money market equilibrium corresponding to different levels of demand for money. The money market is in equilibrium whenever the quantity of money demanded for transactions and speculative purposes is equal to the given supply of money. The LM curve describes the equilibrium points in the market for money- the combinations of aggregate output and interest rate for which the quantity of money demanded equals the quantity of money supplied.

Factors Causing a Shift in LM Curve

The LM curve is shifted by changes in the money supply. An increase in the money supply shifts the LM curve to the right. Only two factors can cause the LM curve to shift. Autonomous changes in money

demand and changes in the money supply. The LM curve shifts to the left if there is an increase in the money demand function which raises the quantity of money demanded at the given interest rate and income level. On the other hand, the LM curve shifts to the right if there is a decrease in the money demand function which lowers the amount of money demanded at given levels of interest rate.

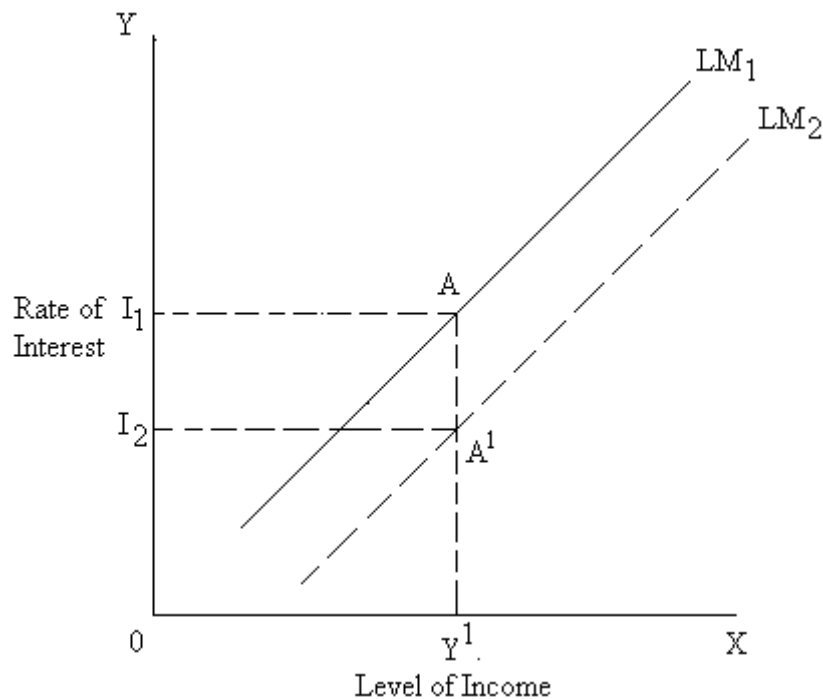


Figure 4.4 : Shifted LM Curve to the Right

The LM curve shifts to the right from LM_1 to LM_2 when the money supply increases because, at any given level of aggregate output i.e. Y^1 , the equilibrium interest rate falls (Pt. A to A^1)

The LM curve shifts to the left if the stock of money supply is reduced.

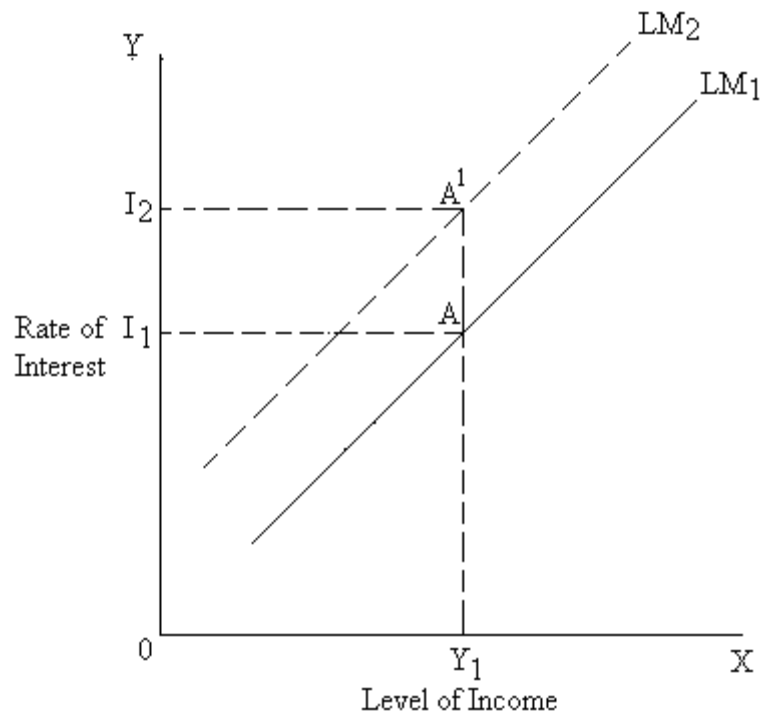


Figure 4.5 : Shifted LM Curve to the Left

The LM curve shifts to the left from LM_1 to LM_2 when money demand increases because, at any given level of aggregate output i.e. Y_1 , the equilibrium interest rate rises (Pt. A to A^1)

Thus, the LM curve- which summarizes all the combinations of Y and I that are consistent with money market equilibrium.

4.3.3 Equilibrium in the Goods and Money Markets

The IS and LM schedules summarize the conditions that have to be satisfied in order for the goods and money markets, respectively, to be in equilibrium. For simultaneous equilibrium, interest rates and income levels have to be such that both the goods market and the money market are in equilibrium.

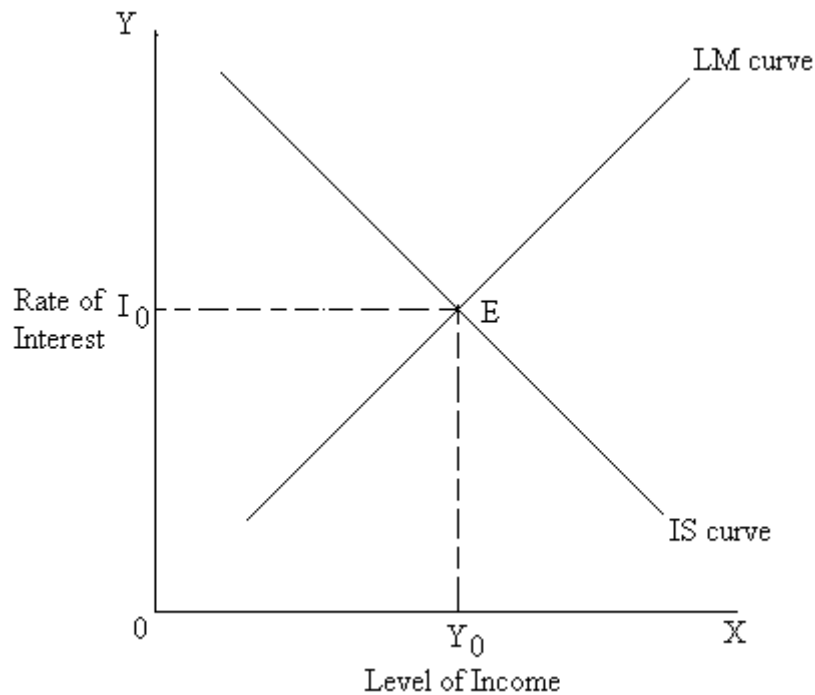


Figure 4.6 : Equilibrium in the IS and LM Curves

This condition is satisfied at point E. The equilibrium interest rate is therefore I_0 and the equilibrium level of income is Y_0 , given the exogenous variables, in particular, the real money supply and fiscal policy. At point E, both the goods market and the money market are in equilibrium.

Thus, the IS- LM curve model is based on : i) The investment – demand function, ii) the consumption function, iii) the money demand function, and iv) the quantity of money. Therefore, according to the IS-LM curve model both the real factors, namely saving and investment, productivity of capital and propensity to consume and save, and the monetary factors, that is, the demand for money and supply of money play a part in the joint determination of the rate of interest and the level of income.

The interest rate and level of output are jointly determined by simultaneous equilibrium of the goods and money markets. This occurs at the point of intersection of the IS and LM curves.

Fiscal policy has its initial impact in the goods market, and monetary policy has its initial impact mainly in the assets markets. But because the goods and assets markets are closely interconnected, both monetary and fiscal policies have effects on both the level of output and interest rates. Expansionary monetary policy moves the LM curve to the right, raising income and lowering interest rates. Contractionary monetary policy moves the LM curve to the left, lowering income and raising interest rates. Expansionary fiscal policy moves the IS curve to the right, raising both income and interest rates. Contractionary fiscal policy moves the IS curve to the left, lowering both income and interest rates.

4.3.4 Using the IS- LM Model to Analyze Fiscal Policy

We can use the IS- LM model to look at the impact of fiscal policy: Government decisions on taxation and spending. Economists refer to increase in government purchases or cuts in taxes as expansionary fiscal policy. Cuts in government purchases and increases in taxes are referred to as contractionary fiscal policy.

An increase in government purchases or a cut in taxes increases expenditure on goods and services, which in turn increases the production of goods and services. This is reflected in a shift out of the IS curve.

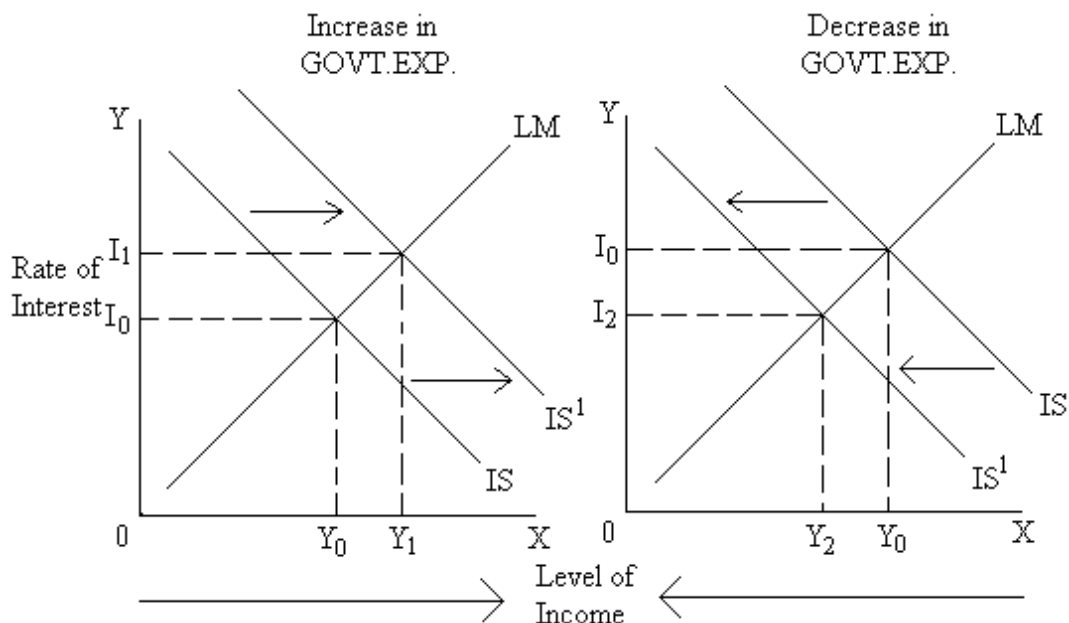


Figure 4.7 : IS-LM Model to Analyze Fiscal Policy

Consider the impact of expansionary fiscal policy initially the economy is in equilibrium at an interest rate of I_0 and an output level of Y_0 . This implies that spending on goods and services equals the production of goods and services while the demand for money equals the supply of money.

Consider the impact of contractionary fiscal policy, we know that this would decrease expenditure on goods and services and therefore shift the IS curve in. The decrease in government purchases decreases expenditure on goods and service, which in turn decreases the production of goods and services. This is reflected in a shift in of the IS curve. At the original interest rate I_0 output is now much lower and as a result the demand for money is also less than the money supply. Equilibrium can only be restored if there is a decrease in the interest rate. So we end up at a point i.e. I_2 and Y_2 .

4.3.5 Using the IS-LM Model to Analyze Monetary Policy

Monetary policy affects the economy, first, by affecting the interest rate and then by affecting aggregate demand. An increase in the money supply reduces the interest rate, increases investment spending and aggregate demand, and thus increases equilibrium output.

An expansionary monetary policy, i.e., it increases the money supply, we showed that this would cause the LM curve to shift to the right. This causes GDP to rise and interest rates to fall in the economy.

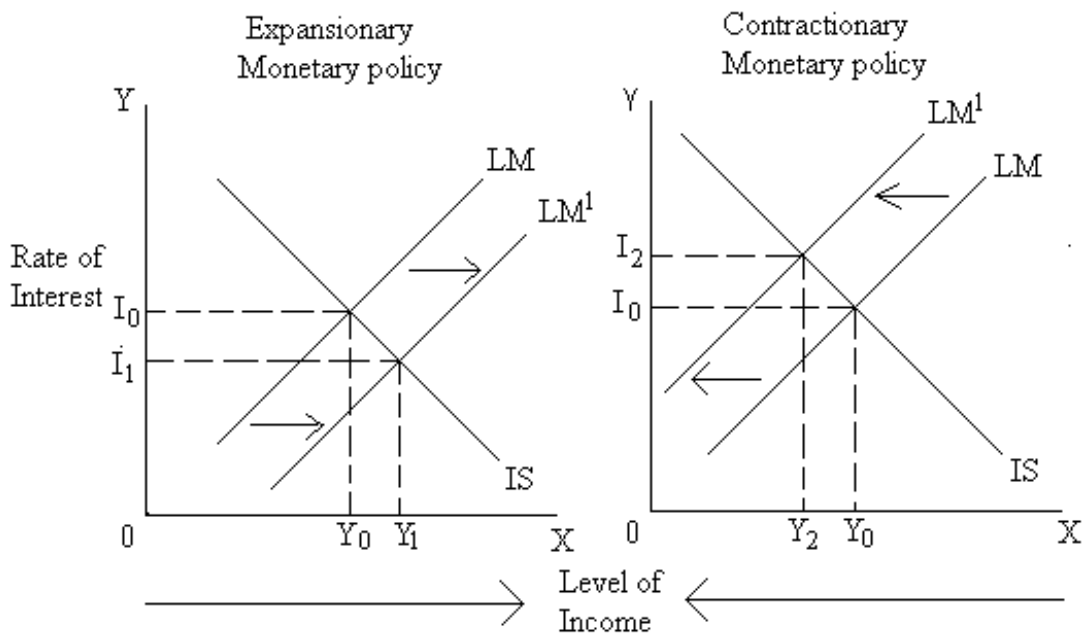


Figure 4.8 : IS-LM Model to Analyze Monetary Policy

Intuitively, expansionary monetary policy has a positive impact on Y because the increase in money supply causes interest rates to fall. In order to restore money market equilibrium on the goods market side, the lower interest rates result in increased investment spending which in turn increases Y .

The opposite would be true for contractionary monetary policy. The decrease in money supply causes interest rates to rise in order to restore money market equilibrium on the goods market side, the higher interest rates result in decreased investment spending, which in turn lowers Y .

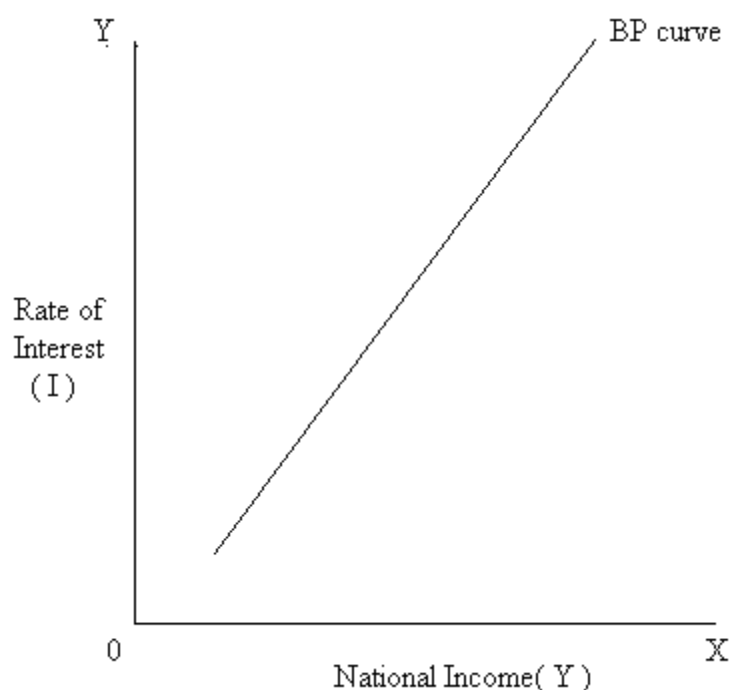
The question of the monetary- fiscal policy mix arises because expansionary monetary policy reduces the interest rate while expansionary fiscal policy increases the interest rate. Accordingly, expansionary fiscal policy increases output while reducing the level of investment, expansionary monetary policy increases output. Governments have to choose the mix in accordance with their objectives for economic growth, or increasing consumption, or from the view point of their beliefs about the desirable size of the government.

4.4 EQUILIBRIUM IN AN OPEN ECONOMY

The new tool of analysis take the form of BP curve. BP curve, showing equilibrium in the balance of payments. Short term capital is now assumed to be responsive to international interest rate differentials.

4.4.1 Balance of Payments Equilibrium : BP Curve

The BP curve shows the various combinations of interest rates (I) and national income (Y) at which the nation's balance of payments is in equilibrium at a given exchange rate. The balance of payments is in equilibrium when a trade deficit is matched by an equal net capital inflow, a trade surplus is matched by an equal net capital outflow, or a zero trade balance is associated with a zero net international capital flow.

BP CURVE**Figure 4.9 : BP Curve**

The BP curve is positively inclined because higher rates of interest lead to greater capital inflows and must be balanced with higher levels of national income and imports for the balance of payments to remain in equilibrium.

4.4.2 Equilibrium in the Goods Market, in the Money Market, and in the Balance of Payments

The IS, LM and BP curves show the various combinations of interest rates and national income at which the goods market, the money market, and the nation's balance of payments, respectively are in equilibrium.

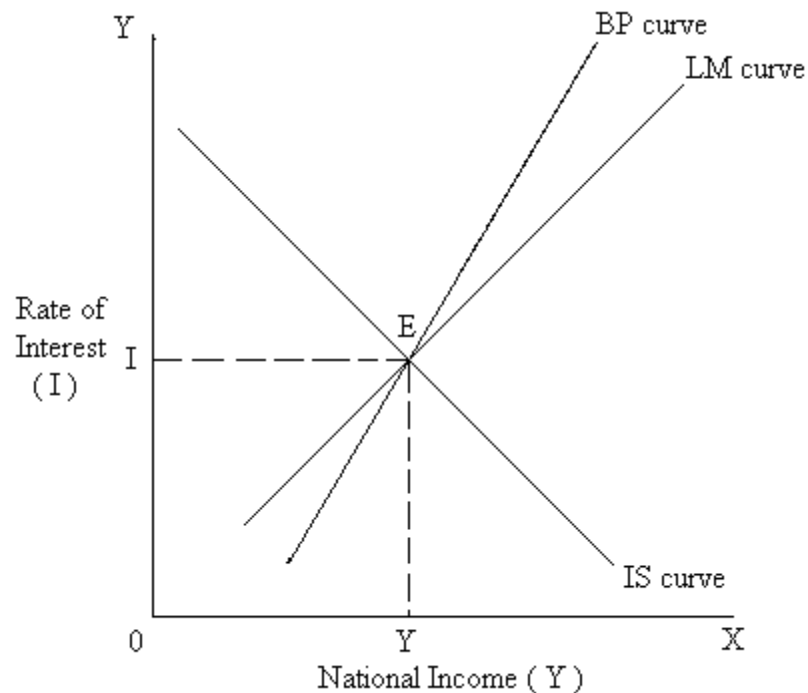


Figure 4.10 : Equilibrium in the IS-LM-BP Curves

The IS curve is negatively inclined because lower rates of interest are associated with higher incomes for the quantities of goods and services demanded and supplied to remain equal. The LM curve is positively inclined because higher incomes must be associated with higher interest rates for the total quantity of money demanded to remain equal to the given supply of money. The BP curve is also positively inclined because higher incomes require higher rates of interest for the nation to remain in balance-of-payments equilibrium. The only point at which the nation is simultaneously in equilibrium in the goods market, in the money market and in the balance of payment is at point E, where the IS, LM and BP curves cross.

However, a point such as E, where the nation is simultaneously in equilibrium in all three markets, is a convenient starting point to examine how the nation, by the appropriate combination of fiscal and

monetary policies, can reach the full employment level of national income while keeping the exchange rate fixed.

4.5 FISCAL AND MONETARY POLICIES FOR INTERNAL AND EXTERNAL BALANCE WITH FIXED EXCHANGE RATES

Firstly, we examine the effect of fiscal policy on the IS curve and the effect of monetary policy on the LM curve, and then we show how fiscal and monetary policies can be used to reach internal and external balance.

4.5.1 Fiscal and Monetary Policies from External Balance and Unemployment

An expansionary fiscal policy in the form of an increase in government expenditures or a reduction in taxes shifts the IS curve to the right so that at each rate of interest the goods market is in equilibrium at a higher level of national income. On the other hand, a contractionary fiscal policy shifts the IS curve to the left. An easy monetary policy in the form of an increase in the nation's money supply shifts the LM curve to the right, indicating that at each rate of interest the level of national income must be higher to absorb the increase in the money supply. On the other hand, a tight monetary policy reduces the nation's money supply and shifts the LM curve to the left. Monetary and fiscal policies will not directly affect the BP curve, and since we are here assuming that the exchange rate is fixed, the BP curve remains unchanged.

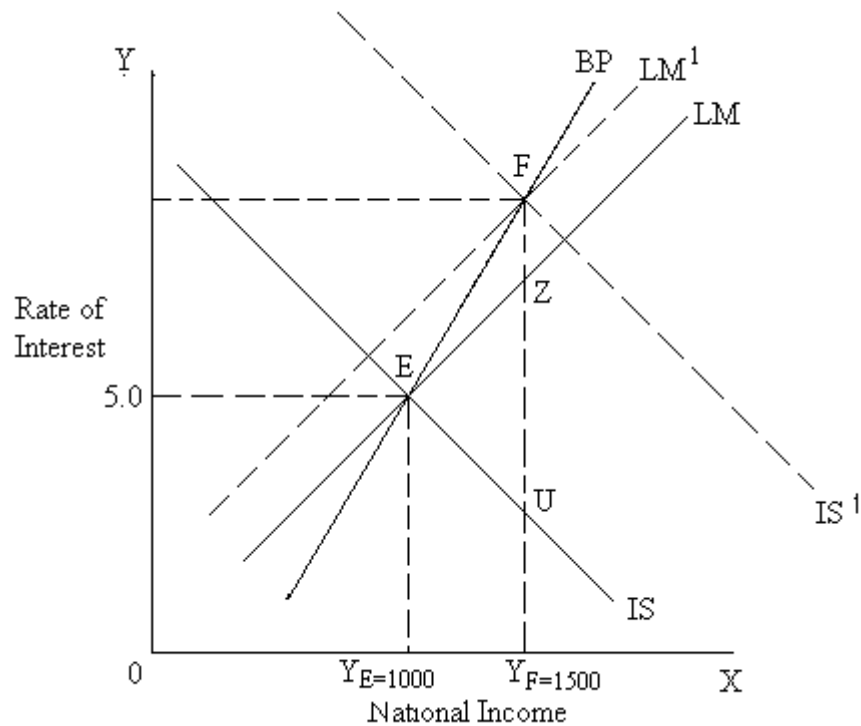


Figure 4.11 : Fiscal and Monetary Policies from External Balance and Unemployment

Expansionary fiscal policy shifts the IS curve to the right, and tight monetary policy shifts the LM curve to the left, but they leave the BP curve unchanged as long as the exchange rate is kept fixed. Starting from point E with domestic unemployment and external balance, the nation can reach the full employment level of national income of $Y_F=1500$ with external balance by pursuing the expansionary fiscal policy that shifts the IS curve to the right to IS^1 and the tight monetary policy that shifts the LM curve to the left to LM^1 while holding the exchange rate fixed. All three markets are in equilibrium at point F, where curves IS^1 and LM^1 cross on the unchanged BP curve. Thus, two conflicting policies (an expansionary fiscal policy and a tight monetary

policy) are required for this nation to reach internal and external balance simultaneously.

4.5.2 Fiscal and Monetary Policies from External Deficit and Unemployment

The same general policy mix is required for the nation to achieve internal and external balance starting from a condition of internal unemployment and external deficit, where expansionary fiscal policy and tight monetary policy are required.

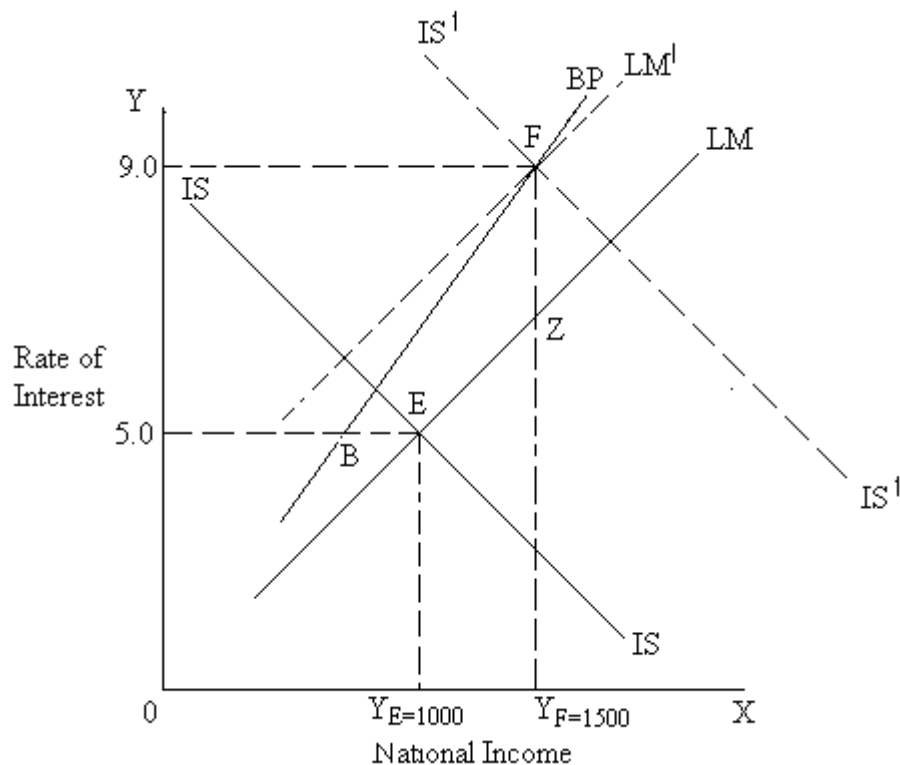


Figure 4.12 : Fiscal and Monetary Policies from External Deficit and Unemployment

IS and LM curves intersect at point E but the BP curve does not. That is, the domestic economy is in equilibrium at $I=5.0\%$ and $Y_E=1000$, but the nation faces a deficit in its balance of payments because pt. E is

to the right of point B on the BP curve. That is, external balance requires the level of national income. Starting from point E, with domestic unemployment and external deficit, the nation can reach the full employment level of national income of $Y_F=1500$ with external balance by pursuing the expansionary fiscal policy that shifts the IS curve to the right to IS^1 and the tight monetary policy that shifts the LM curve to the left to LM^1 while keeping the exchange rate fixed. All three markets are then in equilibrium at point F, where curves IS^1 and LM^1 cross on the unchanged BP curve at $I=9.0\%$ and $Y_F=1500$, because of the original external deficit, the nation now requires a higher interest rate to reach external and internal balance.

4.5.3 Fiscal and Monetary Policies with Elastic Capital Flows

We have seen that a country with domestic unemployment and an external deficit can achieve both internal and external balance simultaneously with the appropriate expansionary fiscal policy and tight monetary policy. Tight monetary policy was required only because the BP curve was steeper than the LM curve and was located to the left of the LM curve at the full-employment level of national income (Y_F). This implies that international capital flows are not very responsive to changes in international interest differentials with the elimination of all or most controls on international capital flows among industrial countries today, however the BP curve is likely to be much flatter.

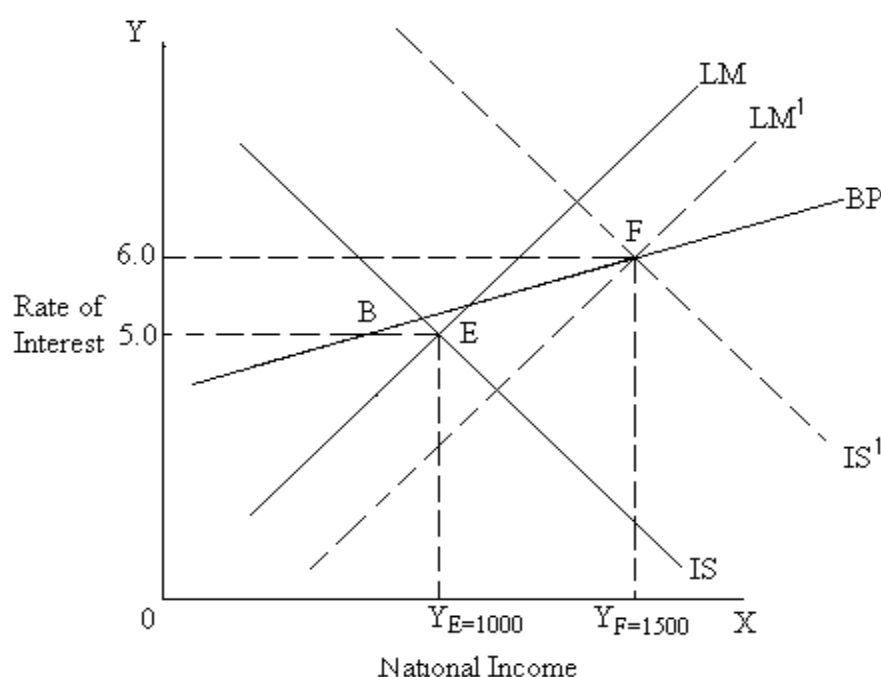


Figure 4.13 : Fiscal and Monetary Policies with Elastic Capital Flows

Starting from point E with domestic unemployment and external deficit, the nation can reach the full-employment level of national income of $Y_F = 1500$ with external balance by pursuing the expansionary fiscal policy that shifts the IS curve to the right to IS^1 and the easy monetary policy that shifts the LM curve to the right to LM^1 , while keeping the exchange rate fixed. All three markets are then in equilibrium at pt F, where curves IS^1 and LM^1 cross on the unchanged BP curve at $I = 6.0\%$ and $Y_F = 1500$. Since international capital flows are now much more elastic than the interest rate needs only to rise from $I = 5.0\%$ to $I = 6.0\%$ thus, facing domestic unemployment and an external deficit, the nation will require an expansionary fiscal policy but a tight or easy monetary policy to achieve both internal and external balance, depending on whether the BP curve is to the left or to the right of the LM curve at the full employment level of national income (i.e. depending on how responsive capital flows are to interest rate differentials).

4.5.4 Fiscal and Monetary Policies with Perfect Capital Mobility

The initial equilibrium condition where all three markets are simultaneously in equilibrium at point E, but with perfect capital mobility (so that the BP curve is now horizontal at $I=5\%$ prevailing on the world market) This means that a small nation can borrow or lend any desired amount at 5% This condition was particularly relevant for small western European nations as a result of the high capital market integration that took place during the 1980's and 1990's through the Euro currency market. In this extreme case, a small nation can reach the full employment level of national income with equilibrium in its balance of payments by the appropriate fiscal policy and without any monetary policy. Indeed, in this world of perfect capital mobility and fixed exchange rates, monetary policy would be entirely ineffective.

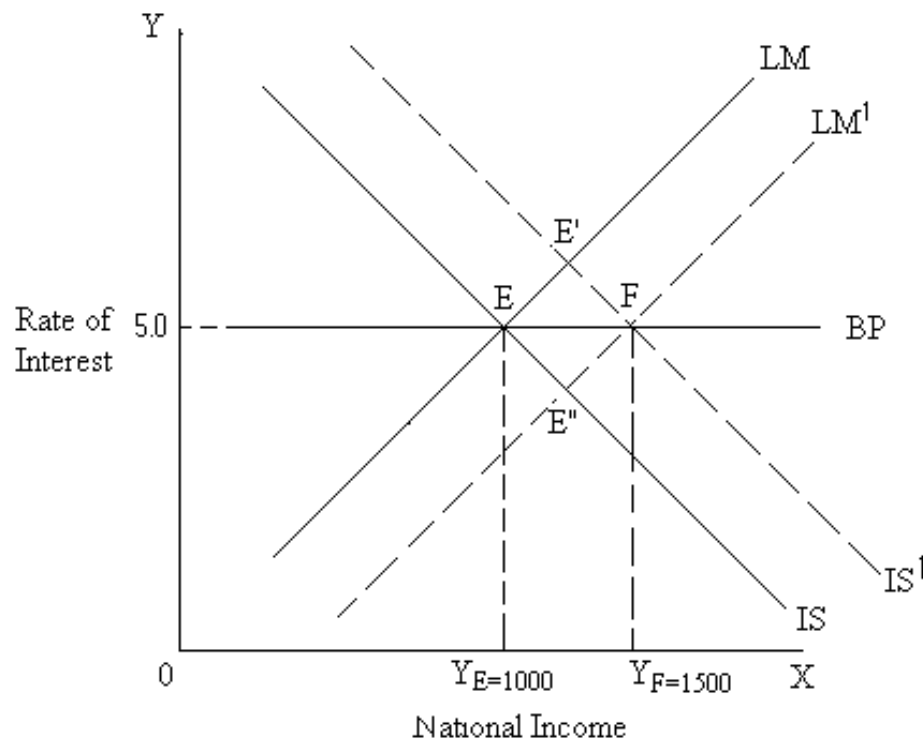


Figure 4.14 : Fiscal and Monetary Policies with Perfect Capital Mobility

Starting from Pt. E with domestic unemployment and external balance, and perfect capital mobility and a fixed exchange rate, the nation can reach the full employment level of national income of $Y_F = 1500$ with the expansionary fiscal policy that shifts the IS curve to the right to IS^1 and with the LM curve shifting to the right to LM^1 because of capital inflows that the nation is unable to neutralize. If the nation attempted to sterilize, or neutralize the effect of these capital outflows on its money supply, it would soon exhaust all of its foreign exchange reserves, and the capital outflows would continue until the nation's money supply had been reduced to the original position given by the LM curve.

Thus, with fixed exchange rates, monetary policy is completely ineffective if international capital flows are highly elastic, as they are likely to be, for many small industrial nations in today's world of highly integrated capital markets.

4.6 FISCAL AND MONETARY POLICIES FOR INTERNAL AND EXTERNAL BALANCE WITH FLEXIBLE EXCHANGE RATES

We utilize the IS –LM- BP model to examine how internal and external balance can be reached simultaneously with monetary policy under a flexible exchange rates.

4.6.1 The IS-LM-BP Model with Flexible Exchange Rates and Imperfect Capital Mobility

Under a flexible exchange rate system the nation's currency depreciates and the BP curve shifts to the right. At the same time, the

depreciation improves the nation's trade balance, and so the IS curve shifts to the right. The depreciation will also increase domestic prices and the transaction demand for money and shift the LM^1 curve to the left.

With flexible exchange rates, the nation could reach internal and external balance by using only monetary or fiscal policy. Using monetary policy will have a greater effect on interest rates in the nation and thus on its rate of growth. With perfectly elastic international capital flows and flexible exchange rates, monetary policy is effective while fiscal policy is completely ineffective.

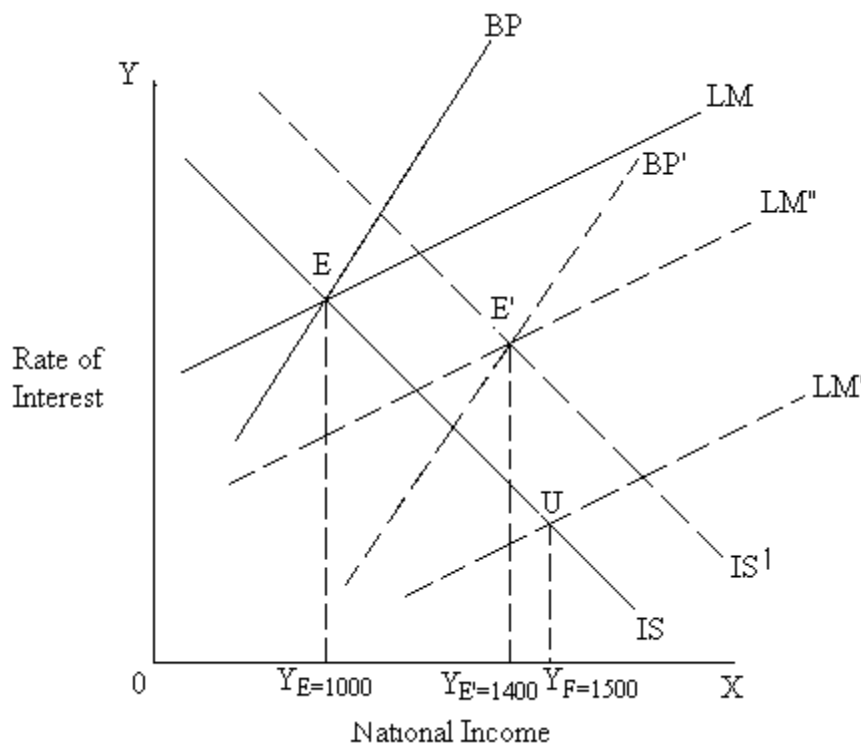


Figure 4.15 : The IS-LM-BP Model with Imperfect Capital Mobility

Starting from pt. E, where all three markets are in equilibrium with an external balance and domestic unemployment, the nation could use easy monetary policy to shift the LM curve to the right to LM^1 so as to cross the IS curve at point U is to the right of the BP curve, the nation

has an external deficit. With flexible exchange rates, the nation's currency depreciates and this causes the BP and IS curves to shift to the right and the LM^1 curve to the left until curves BP^1 , IS^1 and LM'' cross at a point such as E, with $Y_E = 1400$. The process can be repeated with additional doses of easy monetary policy until all three markets are in equilibrium at $Y_F = 1500$.

However, that in either case when a nation starts with an easy monetary policy rather than with an expansionary fiscal policy, it ends up with a lower interest rate, which is a stimulus to long run growth.

4.6.2 The IS- LM- BP Model with Flexible Exchange Rates and Perfect Capital Mobility

With flexible exchange rates and perfect capital mobility, fiscal policy is completely ineffective at influencing the level of national income.

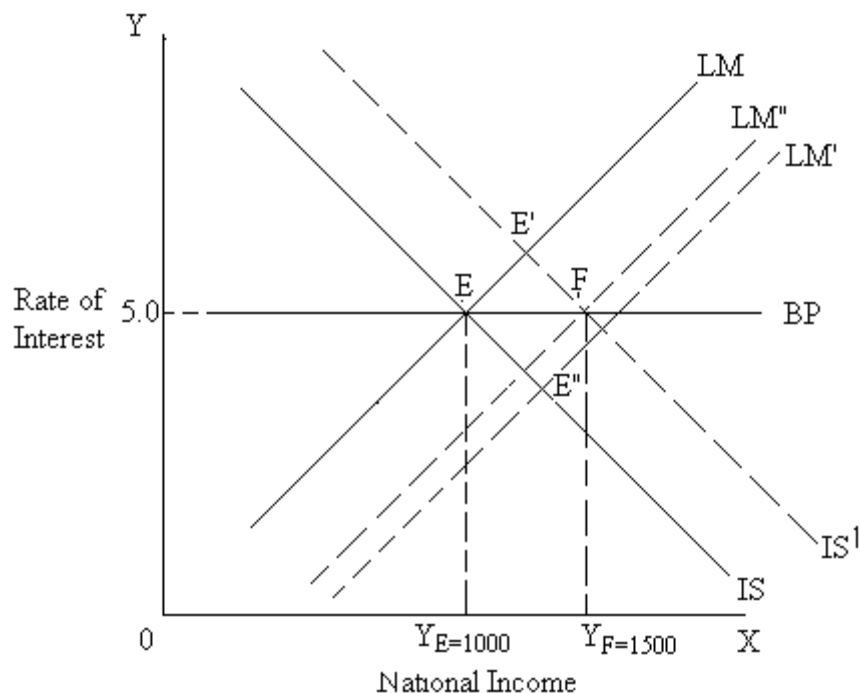


Figure 4.16 : The IS-LM-BP Model with Perfect Capital Mobility

Starting from point E with domestic unemployment and external balance, and perfectly elastic capital flows and flexible exchange rates, the nation can reach the full employment level of national income of $Y_F = 1500$ with the easy monetary policy that shifts the LM curve to the right to LM^1 . This causes the IS curve to shift to the right to IS^1 (because the tendency of the currency to depreciate improves the nation's trade balance) and the LM^1 curve part of the way to LM'' (because of the reduction in the real money supply resulting from the increase in domestic prices). The final equilibrium is at point F where the IS^1 and LM'' curves cross on the BP curve at $Y_F = 1500$. Now the nation achieves internal and external balance with monetary policy.

Thus, with perfect capital mobility, monetary policy is effective and fiscal policy ineffective with flexible exchange rates, while fiscal policy is effective and monetary policy ineffective with fixed exchange rates. The IS-LM-BP model has been the "work horse" of economic policy formulation for open economies during the past four decades. In particular, the LM curve is based on the stock of money, while the BP curve is based on the flow of capital, mixing stock and flows is never a good idea. In this context, the model assumes that a rise in domestic interest rates will lead to a continuous capital inflow from abroad to finance the nation's balance of payments deficit. The capital inflow, however, is likely to be of a once and for all type and to come to an end after investors have readjusted their portfolios following the increase in the domestic interest rate.

Monetary policy induces short- term international capital flows. The nation should use fiscal policy to achieve internal balance and monetary policy to achieve external balance. This policy mix, however, is relevant only in the short run. In the long run, external balance may require a change in the exchange rate.