

Role and Relative effectiveness of Monetary and Fiscal Policy

Introduction:

The relative effectiveness of monetary and fiscal policy has been the subject of controversy among economists. The monetarists regard monetary policy more effective than fiscal policy for economic stabilisation. On the other hand, the Keynesians hold the opposite view. In between these two extreme views are the synthesists who advocate the middle path. Before we discuss them, we study the effectiveness of monetary and fiscal policy in terms of shape of the IS curve and the LM curve. The IS curve represents fiscal policy and the LM curve monetary policy.

Monetary Policy

The government influences investment, employment, output and income through monetary policy. This is done by increasing or decreasing the money supply by the monetary authority. When the money supply is increased, it is an expansionary monetary policy. This is shown by shifting the LM curve to the right. When the money supply is decreased, it is a contractionary monetary policy. This is shown by shifting the LM curve to the left.

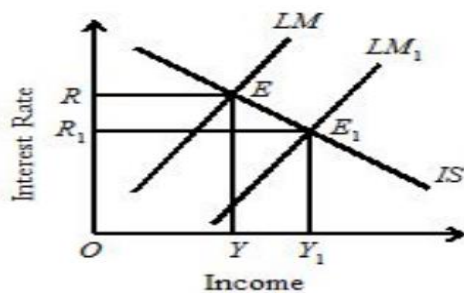


Fig. 1

Figure 1 illustrates an expansionary monetary policy with given LM and IS curves. Suppose the economy is in equilibrium at point E with OY income and OR interest rate. An increase in the money supply by the monetary authority shifts the LM curve to the right to LM1, given the IS curve. This reduces the interest rate from OR to OR1 thereby increasing investment and national income. Thus the national income rises from OY to OY1.

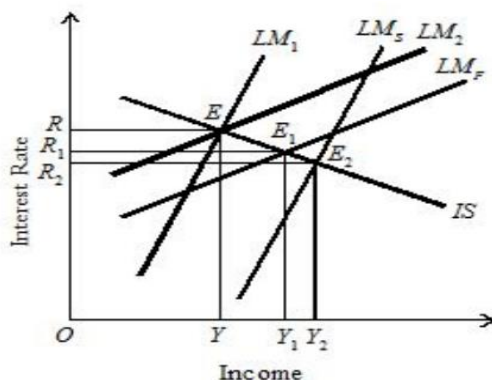
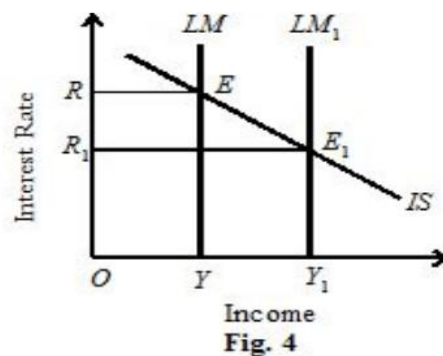
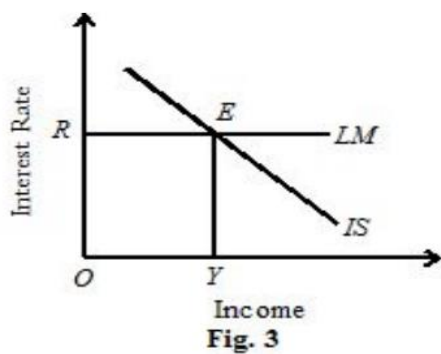


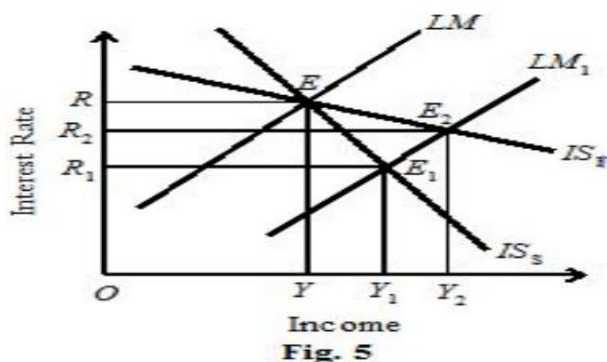
Fig. 2

But the relative effectiveness of monetary policy depends on the shape of the LM curve and the IS curve. Monetary policy is more effective if the LM curve is steeper. A steeper LM curve means that the demand for money is less interest elastic. The less interest elastic is the demand for money, the larger is the fall in interest rate when the money supply is increased. This is because when the

demand for money is less elastic to a change in interest rate, an increase in the money supply is more powerful in the bringing about a large fall in interest rate. A large fall in the interest rate leads to a higher increase in investment and in national income. This is depicted in Figure 2 where E is the original equilibrium position of the economy with OR interest rate and OY income. When the steep LM1 curve shifts to the right to LM2, the new equilibrium is set at E2. As a result, the interest rate falls from OR to OR2 and income rises from OY to OY2. On the other hand, the flatter is the LM curve, the less effective is monetary policy. A flatter LM curve means that the demand for money is more interest elastic. The more interest elastic is the demand for money, the smaller is the fall in interest rate when the money supply is increased. A small fall in the interest rate leads to a smaller increase in investment and income. In Figure 2, E is the original equilibrium position with OR interest rate and OY income. When the flatter LM2 curve shifts to the right to LM1 the new equilibrium is established at E1 which produces OR1 interest rate and OY1 income level. In this case, the fall in interest rate to OR1 is less than OR2 of the steeper LM2 curve and the increase in income OY1 is also less than OY2 of the steeper curve. This shows that monetary policy is less effective in the case of the flatter LM curve and more effective in the case of the steeper curve.

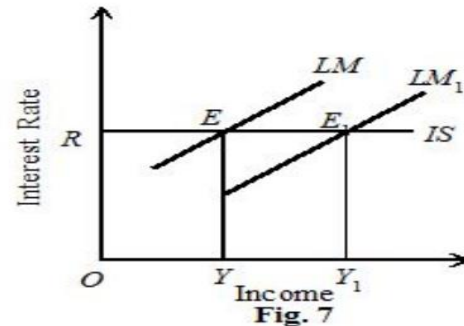
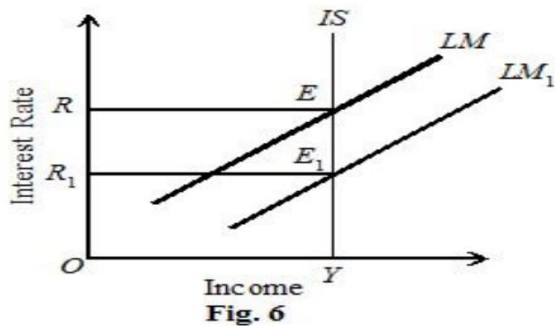


If the LM curve is horizontal, monetary policy is completely ineffective because the demand for money is perfectly interest elastic. This is the case of “liquidity trap” shown in Figure 3, where the increase in the money supply has no effect on the interest rate OR and the income level OY. On the other hand, if the LM curve is vertical, monetary policy is highly effective because the demand for money is perfectly interest inelastic. Figure 4 shows that when the vertical LM curve shifts to the right to LM1 with the increase in the money supply, the interest rate falls from OR to OR1 which has no effect on the demand for money and the entire increase in the money supply has the effect of raising the income level from OY to OY1.



Now take the slope of the IS curve. The flatter is the IS curve, the more effective is the monetary policy. The flatter IS curve means that the investment expenditure is highly interest elastic. When an

increase in the money supply lowers the interest rate even slightly, private investment also increases, by a large amount, thereby raising income much. This is depicted in Figure 5 where the original equilibrium is at point E with OR interest rate and OY income level. When the LM curve shifts to the right to LM₁ with the increase in money supply, it intersects the flatter curve ISF at E₂ which produces OR₂ interest rate and OY₂ income. If we compare this equilibrium position E₂ with the E₁ position where the curve ISs is steeper, the interest rate OR₁ and the income level OY₁ are lower than the interest rate and income level of the flatter ISF curve. This shows that when the money supply is increased, a small fall in the rate of interest leads to a large rise in private investment which raises income more (by YY₂) with the flatter IS curve as compared to the steep IS curve (by YY₁) thus making monetary policy more effective.



If the IS curve is vertical, monetary policy is completely ineffective because investment expenditure is completely interest inelastic. With the increase in the money supply, the LM curve shifts to the right to LM₁ in Figure 6, the interest rate falls from OR to OR₁ but investment being completely interest inelastic, the income remains unchanged at OY. On the other hand, if the IS curve is horizontal, monetary policy is highly effective because investment expenditure is perfectly interest elastic. Figure 7 shows that with the increase in the money supply, the LM curve shifts to LM₁. But even with no change in the interest rate OR, there is a large change in income from OY to OY₁. This makes monetary policy highly effective.

Fiscal Policy

The government also influences investment, employment, output and income in the economy through fiscal policy. For an expansionary fiscal policy, the government increases its expenditure or/and reduces taxes. This shifts the IS curve to the right. The government follows a contractionary fiscal policy by reducing its expenditure or/and increasing taxes. This shifts the IS curve to the left.

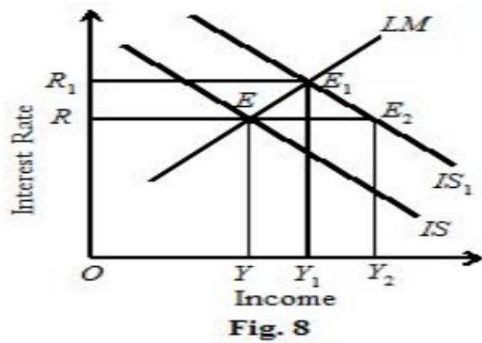
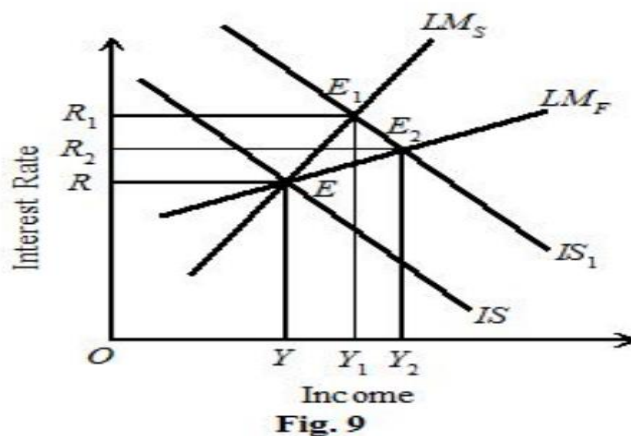
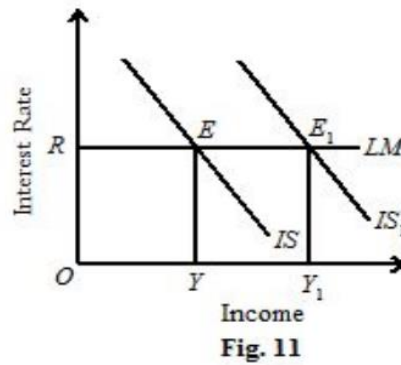
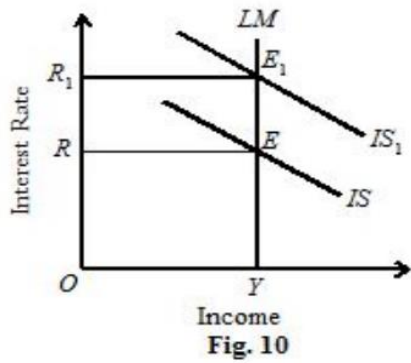


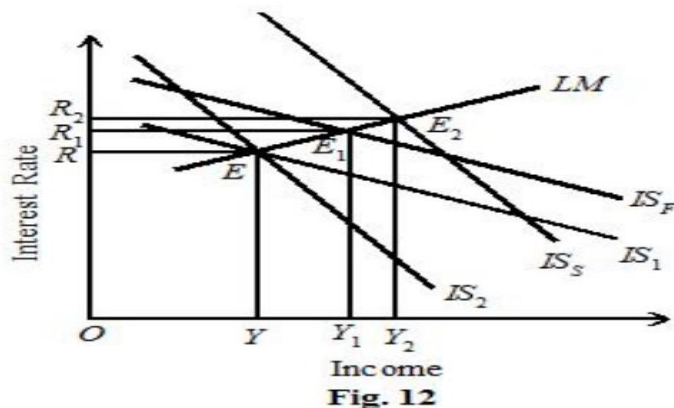
Figure 8 illustrates an expansionary fiscal policy with given IS and LM curves. Suppose the economy is in equilibrium at point E with OR interest rate and OY income. An increase in government spending or a decrease in taxes shifts the IS curve upwards to IS₁ which intersects the LM curve at E₁. This raises the national income from OY to OY₁. The rise in the national income increases the demand for money, given the fixed money supply. This, in turn, raises the interest rate from OR to OR₁. The increase in the interest rate tends to reduce private investment expenditure at the same time when the government expenditure is being increased. If the interest rate had not changed with the increase in government expenditure, income would have risen to OY₂ level. But the actual increase in income has been less by Y₂Y₁ due to the increase in the interest rate to OR₁ which has reduced private investment expenditure. The opposite happens in a contractionary fiscal policy.



The relative effectiveness of fiscal policy depends on the slope of the LM curve and the IS curve. Fiscal policy is more effective, the flatter is the LM curve, and is less effective when the LM curve is steeper. When the IS curve shifts upwards to IS₁ with the increase in government expenditure, its impact on the national income is more with the flatter LMF curve than with the steeper LMS curve. This is shown in Figure 9 where the IS₁ curve intersects the flatter LMF curve at point E₂ which produces OY₂ income and OR₂ interest rate. On the other hand, it intersects the steeper LMS curve at E₁ which determines OY₁ income and OR₁ interest rate. In the case of the steeper curve LMS, the increase in income to OY₁ leads to a large rise in the demand for money which raises the interest rate to a very high level OR₁. The large increase in the interest rate reduces private investment despite increase in government expenditure which ultimately brings a small rise in income OY₁. But in the case of the flatter curve LMF, the rise in the interest rate to OR₂ is relatively small. Consequently, it reduces private investment to a lesser degree and its net effect on national income is relatively large. Thus the increase in national income with the flatter curve LMF is more (Y₂ > Y₁) as compared with the steeper curve LMS.



Fiscal policy is completely ineffective, if the LM curve is vertical. It means that the demand for money is perfectly interest inelastic. This is shown in Figure 10 where the level of income remains unchanged. When the IS curve shifts upwards to IS_1 , only the interest rate rises from OR to OR_1 and increase in government expenditure does not affect national income at all. It remains constant at OY . At the other extreme is the perfectly horizontal LM curve where fiscal policy is fully effective. This situation implies that the demand for money is perfectly interest elastic. This is shown in Figure 11 where the horizontal LM curve is intersected by the IS curve at E which produces OR interest rate and OY income. When the IS curve shifts to the right to IS_1 , income rises by the full multiplier of the increase in government expenditure. It rises to OY_1 but there is no change in interest rate.



Now take the slope of the IS curve. The steeper is the IS curve, the more effective is fiscal policy. The flatter is the IS curve, the less effective is fiscal policy. These two cases are illustrated in Figure 12 where E is the original equilibrium point with OR interest rate and OY income level. The increase in government expenditure shifts the flatter curve IS_1 to IS_F so that the new equilibrium with LM curve at point E_1 produces OR_1 interest rate and OY_1 income level. Similarly, the steeper curve IS_2 is shifted to IS_S with the increase in government expenditure and the new equilibrium with LM curve at point E_2 leads to OR_2 interest rate and OY_2 income level. The figure shows that the national income increases more with the shifting of the steeper IS curve than in the case of the flatter IS curve. It rises by YY_2 in the case of the steeper curve IS_S and by YY_1 in the case of the flatter curve IS_F . This is because investment expenditure is less interest-elastic, when the IS curve is steeper. The increase in the interest rate to OR_2 reduces very little private investment with the result that the rise in income is greater. It is YY_2 . On the other hand, the increase in income is smaller in the case of the flatter IS curve. It is YY_1 . This is because investment expenditure is more interest-elastic. The increase in the interest rate to OR_1 reduces large private investment so that the rise in income is

smaller. Thus fiscal policy is more effective, the steeper is the IS curve and is less effective in the case of the flatter IS curve.

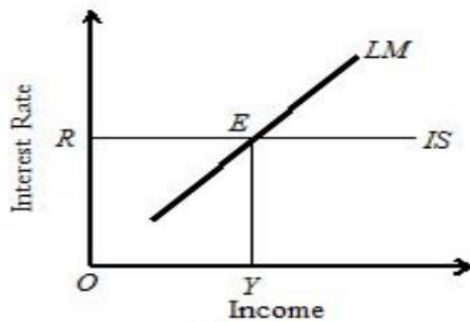


Fig. 13

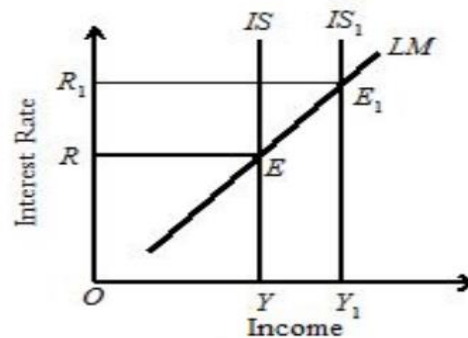


Fig. 14

Fiscal policy is completely ineffective, if the IS curve is horizontal. An horizontal IS curve means that investment expenditure is perfectly interest elastic. This is depicted in Figure 13 where LM curve intersects the IS curve at E. An increase in government expenditure has no effect on the interest rate OR and hence on the income level OY . Such a situation is not likely to be in practice. On the other extreme is the vertical IS curve which makes fiscal policy highly effective. This is because government expenditure is perfectly interest inelastic. An increase in government expenditure shifts the IS curve to the right to IS_1 , raises the interest rate to OR_1 and income to OY_1 by the full multiplier of the increase in government expenditure, as shown in Figure 14. This makes fiscal policy highly effective.

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