

Figure 5-12 The money supply multiplier.

The Effectiveness of Monetary Policy

As was the case with fiscal policy, the effectiveness of monetary policy will vary with the cyclical position of the economy. As Figure 5-13 shows, with a given slope of the *IS* curve, a given shift in the *LM* curve due to an increase in the money supply will have a greater effect on *y* at high levels of *y* and *r* than at low levels.

This can also be seen from the *dm* multiplier in equation (15). Multiplying both numerator and denominator of (15) by *l'*, which is negative, gives us

$$dy = \frac{i'}{l'[1 - c'(1 - t')] + i'k'} dm. \quad \frac{dy}{dm} > 0 \quad (16)$$

Note here that since *i'* and *l'* are both negative, the multiplier *dy/dm* given by equation (16) is still positive, with both the numerator and denominator negative.

Now, if *l'* is a very large negative number, approaching minus infinity, the denominator of (16) will be very large, so that an increase in *m* will have very little effect on *y*. From the four-quadrant diagram of Figure 5-14, it is

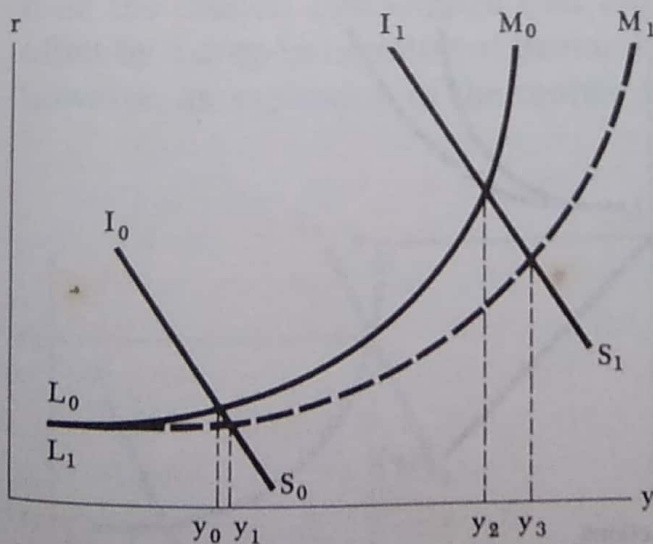


Figure 5-13 The effectiveness of monetary policy.

clear that when the  $l(r)$  curve is very flat, the  $LM$  curve is flat and the economy is at a low level of  $y$  and  $r$ . At that low level of  $r$ , people may be relatively indifferent between holding money and bonds, so that speculative balances absorb an increase in  $\bar{M}$  with little effect on  $r$  and thus little effect on  $i$  and  $y$ .

On the other hand, if  $l'$  is a very small negative number, approaching zero, the first term in the denominator of (16) will be near zero, so that the multiplier will approach the value  $i'/(i'k') = 1/k'$ . From Figure 5-14, it is clear that at high interest rates where the  $l(r)$  curve is steep, the  $LM$  curve is nearly vertical. Thus, in this area of the  $LM$  curve, the effect of an increase in  $\bar{M}$  on  $y$  will be greatest, since the first term in the denominator of (16) will be nearly zero. In this area of  $r, y$  speculative balances have been squeezed to a minimum by the high  $r$ , so that almost all of  $\bar{M}$  is used to finance transactions, and the limit on  $y$  is the availability of  $\bar{M}$ . Since  $k'$  is the increase in transactions demand with a unit increase in  $y$ ,  $1/k'$ , the value of the multiplier when  $LM$  is vertical gives the increase in  $y$  that is possible with a  $d\bar{M}$  increase if it all goes to finance additional  $y$ . So monetary policy has its maximum effectiveness when the economy is at high  $r, y$  levels and is utilizing almost all of the money supply to finance transactions, that is, to support  $y$ .

## THE INTERACTION OF MONETARY AND FISCAL POLICIES

In the previous sections of this chapter, we discussed the relative effectiveness of monetary and fiscal policies in relation to the cyclical position of the economy. The likelihood that the policy instruments  $g$ ,  $t(y)$ , and  $\bar{M}$  differ in the certainty of their results was also mentioned. In addition, it should by now be

