L'equilibrio nel modello IS-LM

We derived the IS and LM equation as:

$$IS: i = \left(\frac{1}{f}\right)\overline{A} - \left(\frac{1-c}{f}\right)Y \qquad (1)$$

$$LM: i = \frac{1}{h}\left[kY - \overline{M}\right] \qquad (2)$$

Equating the right-hand side of each equation gives:

$$\left(\frac{1}{f}\right)\overline{A} - \left(\frac{1-c}{f}\right)Y = \left(\frac{k}{h}\right)Y - \left(\frac{1}{h}\right)\overline{M}$$

Collecting the terms in *Y* gives:

$$\left[\frac{k}{h} + \frac{1-c}{f}\right]Y = \left(\frac{1}{f}\right)\overline{A} + \left(\frac{1}{h}\right)\overline{M}$$

or:

$$\left[\frac{fk + h(1-c)}{hf}\right]Y = \left(\frac{1}{f}\right)\overline{A} + \left(\frac{1}{h}\right)\overline{M}$$

Hence equilibrium *Y* is given by:

$$\begin{aligned} Y &= \frac{hf}{fk + h(1-c)}\left[\left(\frac{1}{f}\right)\overline{A} + \left(\frac{1}{h}\right)\overline{M}\right] \\ &= \frac{hf}{fk + h(1-c)}\left[\frac{1}{hf}\left(h\overline{A} + f\overline{M}\right)\right] \\ &= \frac{1}{fk + h(1-c)}\left[h\overline{A} + f\overline{M}\right] \end{aligned} \qquad (3)$$

and given the value for *Y* from Equation (3) the equilibrium value for *i* can be determined from the LM Equation (2).

Example Equilibrium in the IS-LM model

Suppose that, in a given economy, $\bar{A}$ = 1,010, M = 910, *c* = 0.8, *f* = 1,000, *h* = 1,000 and *k* = 0.2. Use the IS-LM model to find the equilibrium values for *Y* and *i*.

Using Equation (3) in Box 23.3 we get:

$$Y = \frac{1}{400}\left[(1{,}000)\,1{,}010 + (1{,}000)\,910\right] = 4{,}800$$

Substituting the equilibrium value for *Y* into the LM equation gives the equilibrium rate of interest:

$$i = \frac{1}{1{,}000}\left[0.2\,(4{,}800) - 910\right] = 0.05$$

Hence in equilibrium *i* = 0.05 and *Y* = 4,800. For example, in Figure 23.5, point *E* corresponds to an (*i*, *Y*) combination (0.05, 4,800).