

$$(\partial Y^*/\partial G_0) = L'/|J| > 0 \text{ and } (\partial i^*/\partial G_0) = -k/|J| > 0$$

Similarly for monetary policy: Now the vector of unknowns involves $\partial Y^*/\partial M_0$ and $\partial i^*/\partial M_0$, and the vector of constants is $[0 \ 1]$ instead of $[1 \ 0]$. Then:

$$\partial Y^*/\partial M_0 = I'/|J| > 0 \text{ and } \partial i^*/\partial M_0 = (1 - C')/|J| < 0.$$

Both policies are effective.

2. In the previous question assume now that the demand for money is no longer dependent on the interest rate (while still depends on Y).

- Write the revised model.
- Write the new Jacobian determinant. Is the new J -determinant larger or smaller in absolute value compared to the one in the previous question?
- Find the new comparative statics results.
- How do the effectiveness of fiscal and monetary policies compare in the two situations?

Answer

- The first equation is the same but the second should be changed to:

$$kY - M_{s0} \equiv 0.$$

$$(b) \quad |J|' = \begin{vmatrix} 1-C' & -I' \\ k & 0 \end{vmatrix} = -kI'$$

which is numerically smaller.

- With G_0 changing:

$$\begin{bmatrix} 1-C' & -I' \\ k & 0 \end{bmatrix} \begin{bmatrix} \partial Y^*/\partial G_0 \\ \partial i^*/\partial G_0 \end{bmatrix} = \begin{bmatrix} 1 \\ 0 \end{bmatrix}$$

$\partial Y^*/\partial G_0 = 0$ and $\partial i^*/\partial G_0 = -k/|J|' > 0$. Thus, fiscal policy becomes totally ineffective in the changed model.