

## Chapter 6

# Policy Cooperation within Europe, Policy Competition between Europe and America

1) The static model. As a point of departure, take the static model. It can be represented by a system of three equations:

$$Y_1 = A_1 + 0.5\alpha M_{12} - 0.5\beta M_3 - \lambda W_1 - \mu W_2 \quad (1)$$

$$Y_2 = A_2 + 0.5\alpha M_{12} - 0.5\beta M_3 - \lambda W_2 - \mu W_1 \quad (2)$$

$$Y_3 = A_3 + \alpha M_3 - \beta M_{12} + \nu W_1 + \nu W_2 \quad (3)$$

The endogenous variables are German output, French output, and American output.

2) The dynamic model. At the start there is unemployment in Germany, France and America. Unemployment in Germany is high, and unemployment in France is low. First consider policy cooperation within Europe. The policy makers are the European central bank, the German labour union, and the French labour union. They form the European coalition. The targets of policy cooperation within Europe are full employment in Germany and full employment in France. The third target is that the reduction in German nominal wages should be equal in size to the increase in French nominal wages. The instruments of policy cooperation within Europe are European money supply, German nominal wages, and French nominal wages. Under policy cooperation within Europe there are three targets and three instruments, so there is no degree of freedom. Second consider monetary policy in America. The policy maker is the American central bank. The target of the American central bank is full employment in America. And the instrument of the American central bank is American money supply.

We assume that the European coalition and the American central bank decide simultaneously and independently. In step 1, the European coalition and the American central bank decide simultaneously and independently. In step 2,

again, the European coalition and the American central bank decide simultaneously and independently. And so on. The European coalition sets European money supply, German nominal wages, and French nominal wages, forming rational expectations of American money supply. And the American central bank sets American money supply, forming rational expectations of European money supply, German nominal wages, and French nominal wages.

On this basis, the dynamic model can be characterized by a system of eight equations:

$$\bar{Y}_1 = A_1 + 0.5\alpha M_{12} - 0.5\beta M_3^e - \lambda W_1 - \mu W_2 \quad (4)$$

$$\bar{Y}_2 = A_2 + 0.5\alpha M_{12} - 0.5\beta M_3^e - \lambda W_2 - \mu W_1 \quad (5)$$

$$\bar{Y}_3 = A_3 + \alpha M_3 - \beta M_{12}^e + \nu W_1^e + \nu W_2^e \quad (6)$$

$$W_1 + W_2 = \text{const} \quad (7)$$

$$M_{12}^e = M_{12} \quad (8)$$

$$M_3^e = M_3 \quad (9)$$

$$W_1^e = W_1 \quad (10)$$

$$W_2^e = W_2 \quad (11)$$

Here is a list of the new symbols:

- $\bar{Y}_1$  full-employment output in Germany
- $\bar{Y}_2$  full-employment output in France
- $\bar{Y}_3$  full-employment output in America
- $M_{12}^e$  the expectation of European money supply,  
as formed by the American central bank
- $W_1^e$  the expectation of German nominal wages,  
as formed by the American central bank
- $W_2^e$  the expectation of French nominal wages,  
as formed by the American central bank
- $M_3^e$  the expectation of American money supply,  
as formed by the European coalition
- $M_{12}$  European money supply,  
as set by the European coalition