Chapter 1
Monetary Competition between Europe and America

1. The Dynamic Model

1) The static model. The world consists of two monetary regions, say Europe and America. The exchange rate between Europe and America is flexible. Europe in turn consists of two countries, say Germany and France. So Germany and France form a monetary union. There is international trade between Germany, France and America. German goods, French goods and American goods are imperfect substitutes for each other. German output is determined by the demand for German goods. French output is determined by the demand for French goods. And American output is determined by the demand for American goods. European money demand equals European money supply. And American money demand equals American money supply. There is perfect capital mobility between Germany, France and America. Thus the German interest rate, the French interest rate, and the American interest rate are equalized. The monetary regions are the same size and have the same behavioural functions. The union countries are the same size and have the same behavioural functions. Nominal wages and prices adjust slowly.

As a result, an increase in European money supply raises both German output and French output, to the same extent respectively. On the other hand, the increase in European money supply lowers American output. Here the rise in European output is larger than the fall in American output. Correspondingly, an increase in American money supply raises American output. On the other hand, it lowers both German output and French output, to the same extent respectively. Here the rise in American output is larger than the fall in European output.

In the numerical example, an increase in European money supply of 100 causes an increase in German output of 150, an increase in French output of equally 150, and a decline in American output of 100. Similarly, an increase in American money supply of 100 causes an increase in American output of 300, a

decline in German output of 50, and a decline in French output of equally 50. That is to say, the internal effect of monetary policy is very large, and the external effect of monetary policy is large.

Compare this with the results obtained in Part One. First consider the small monetary union of two countries. In the basic model, a 1 percent increase in European money supply causes a 1 percent increase in German output and a 1 percent increase in French output. So the ratio of Germany to France is 1/1 = 1. In the current section, an increase in European money supply of 100 causes an increase in German output of 150 and an increase in French output of equally 150. So the ratio of Germany to France is 150/150 = 1. Strictly speaking, what matters here is that the two ratios are identical. Note that by assumption Germany and France are the same size.

Second consider the world of two monetary regions. In the basic model, a 1 percent increase in European money supply causes a 0.75 percent increase in European output and a 0.25 percent decline in American output. So the ratio of Europe to America is 0.75/0.25 = 3. In the current section, an increase in European money supply of 100 causes an increase in European output of 300 and a decline in American output of 100. So the ratio of Europe to America is 300/100 = 3. What matters here is that the two ratios are identical. Note that by assumption Europe and America are the same size.

Now have a closer look at the process of adjustment. An increase in European money supply causes a depreciation of the euro, an appreciation of the dollar, and a decline in the world interest rate. The depreciation of the euro raises German exports and French exports. The appreciation of the dollar lowers American exports. And the decline in the world interest rate raises German investment, French investment and American investment. The net effect is that German output and French output go up. However, American output goes down. This model is in the tradition of the Mundell-Fleming model and the Levin model, see Part One.

The static model can be represented by a system of three equations:

$$Y_1 = A_1 + 0.5\alpha M_{12} - 0.5\beta M_3 \qquad (1)$$