

ECONOMICS 2

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Week 5

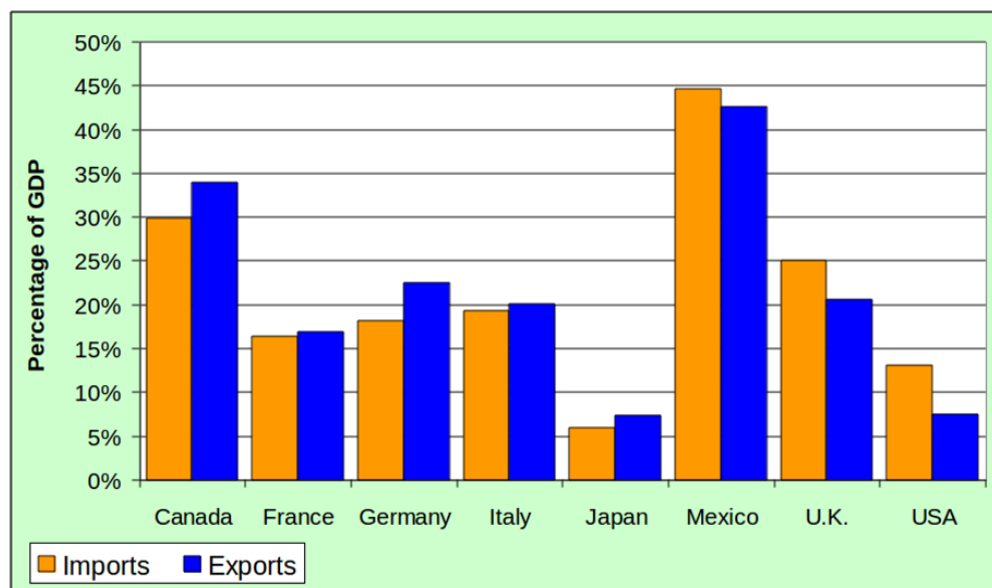
The open economy

Chapters 7

Outline

- Net export
- Small open economy and international interest rate level
- Exchange rates

The importance of international trade



Closed economy

Market of goods:

$$Y = C(Y - T) + I(r) + G$$

Market of capital:

$$S = I(r)$$

Open economy

Gross domestic product:

$$Y = C_d + I_d + G_d + EX,$$

where C_d ; I_d ; G_d demand for domestic products.

But we consume not only domestic products:

$$IM = C_f + I_f + G_f$$

Net export

$$C = C_f + C_d$$

$$G = G_f + G_d$$

$$I = I_f + I_d$$

$$Y = (C - C_f) + (I - I_f) + (G - G_f) + EX$$

$$Y = C + I + G + EX - IM$$

$$\mathbf{Y = C + I + G + NX}$$

Savings

$$Y - C - G = NX + I$$

$$(Y - T - C) + (T - G) = NX + I$$

$$\mathbf{S = NX + I}$$

Two meanings of net export

Net export = output – domestic expenditures

$$NX = Y - (C + I + G)$$

Net export = net foreign investments

$$NX = S - I$$

Balance of trade

Two meanings of net export

The conclusion is that the international flow of cash aiming capital accumulation, and the international flow of goods and services are the same processes.

Question: what does ensure that the two processes achieve equilibrium?

Small open economy

It is a special case when a country is not big enough to influence the international capital markets. In other words, in case of a small economy the internal interest rate equals the international interest rate:

$$r = r^*.$$

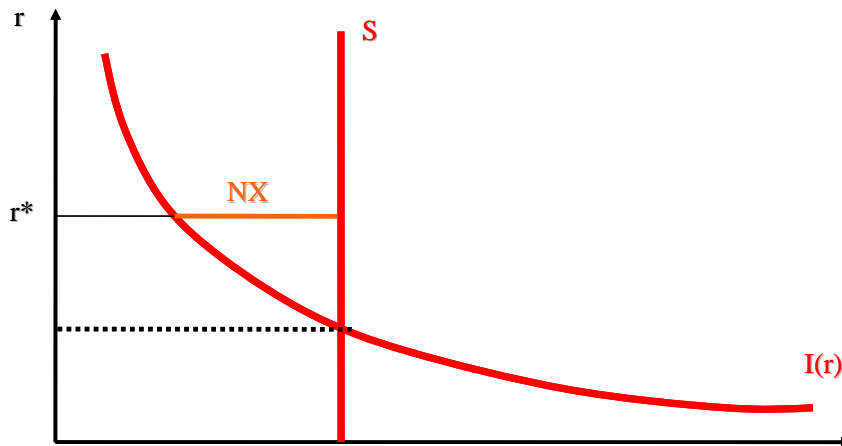
The model

Output in the economy: $\bar{Y} = F(\bar{K}, \bar{L})$

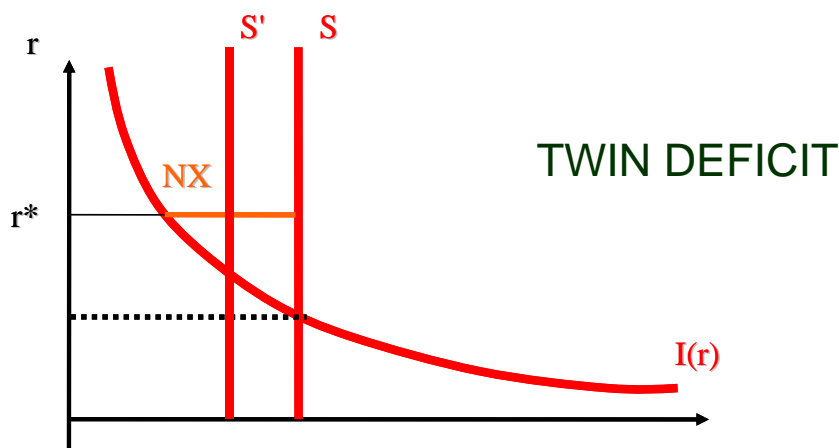
Consumption: $\bar{C} = C(\bar{Y} - \bar{T})$

Investment: $I = I(r) = I(r^*)$

Saving and investment

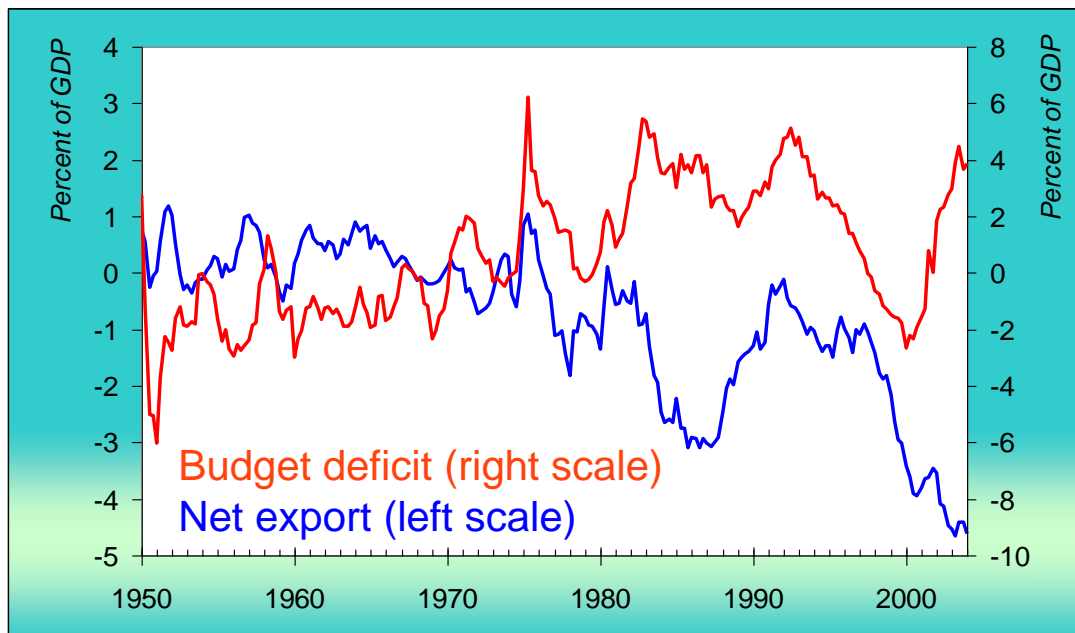


Effect of fiscal expansion



G (increases) → T – G (decreases) → S (decreases)
 NX (decreases) → deficit in public budget and in foreign trade

USA twin deficit



Exchange rate

Nominal exchange rate: Relative price of the means of payment in two countries.

For example, the euro exchange rate is 265 Ft/€.

If it changes to 260 then the Ft becomes stronger, if to 270 then it becomes weaker.

Neither change is good or bad.

The same exchange rate can be expressed as 1/265 €/Ft.

Exchange rate

Real exchange rate: Relative price of the products of two countries. It indicates in what ratio can we exchange the products of one country for the products of the other country.

Real exchange rate =

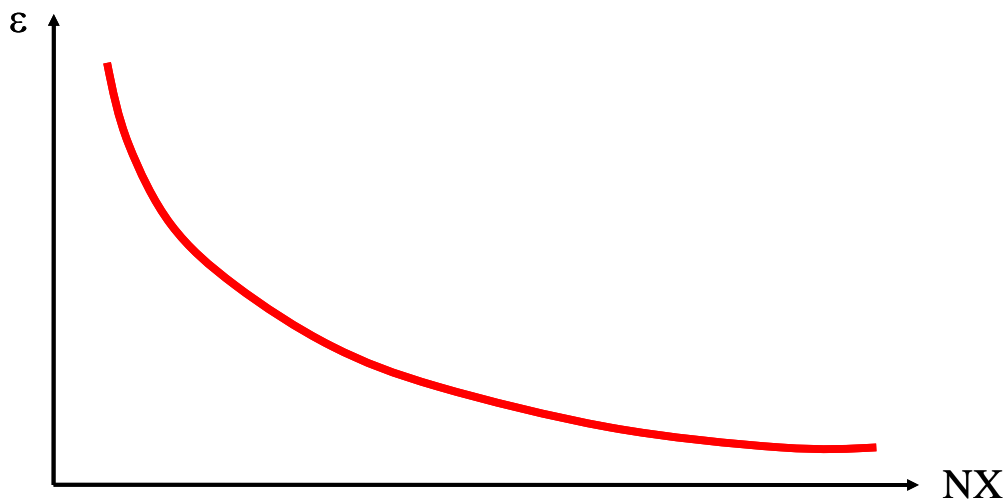
= (nominal exchange rate x price of domestic product)/price of foreign product

Relationship between the two types of exchange rate

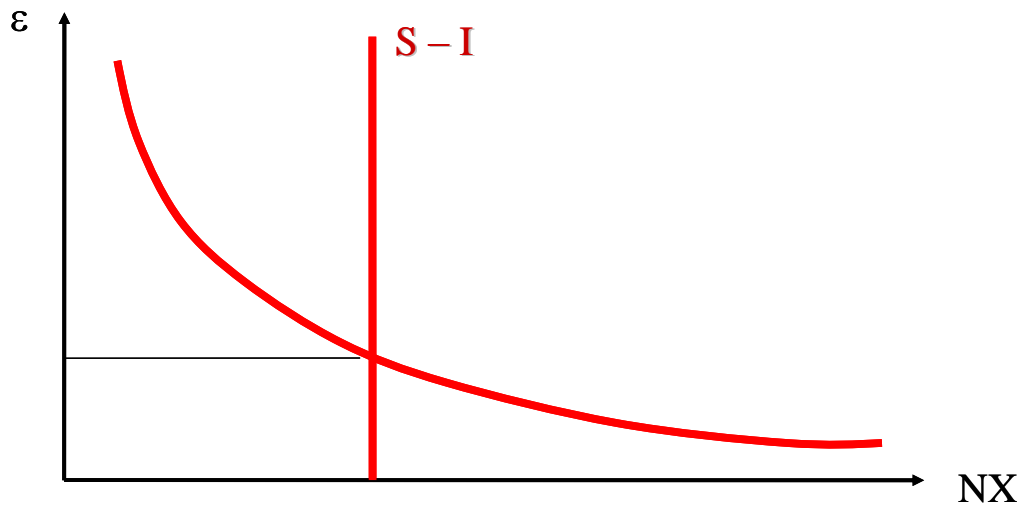
Real exchange rate = nominal exchange rate x ratio of price levels

$$\varepsilon = e \times (P/P^*)$$

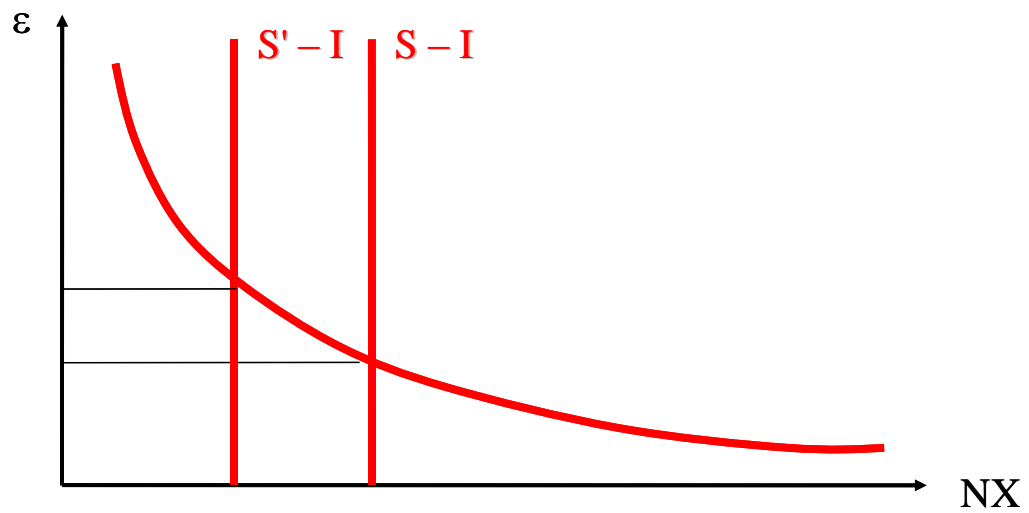
Real exchange rate and net export



Equilibrium real exchange rate



Effect of fiscal expansion



Factors that determine the nominal exchange rate

$$\varepsilon = e \times (P/P^*)$$

$$e = \varepsilon \times (P^*/P)$$

$$e\% \text{ change} = \varepsilon\% \text{ change} + (\pi^* - \pi)$$