Economics II

Lecture11

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Summary

6. External Trade, Exchange Rate and Balance of Payments

6.1. Nominal Exchange rate

6.2. Real Exchange rate

6.3. Exchange Systems

Bibliography

Frank and Bernanke (2011), Chapter 14 ("Exchange Rates")

NOTE: Presentation slides do not substitute the BIBLIOGRAPHY

Session learning goals:

- Concepts of exports and imports of goods and services
- Relate exports and imports with the economic price competitiveness
- Understand the concepts of exchange rate (nominal and real)
- Distinguish between flexible and fixed exchange regimes

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Exercices:

5.1.-5.8. and 5.10.

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6. External Trade, Exchange Rate and Balance of Payments

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Exports and Imports :

- Remember from the main identity of national accounts:

$$Y_t = C_t + I_t + G_t + Ex_t - Im_t$$

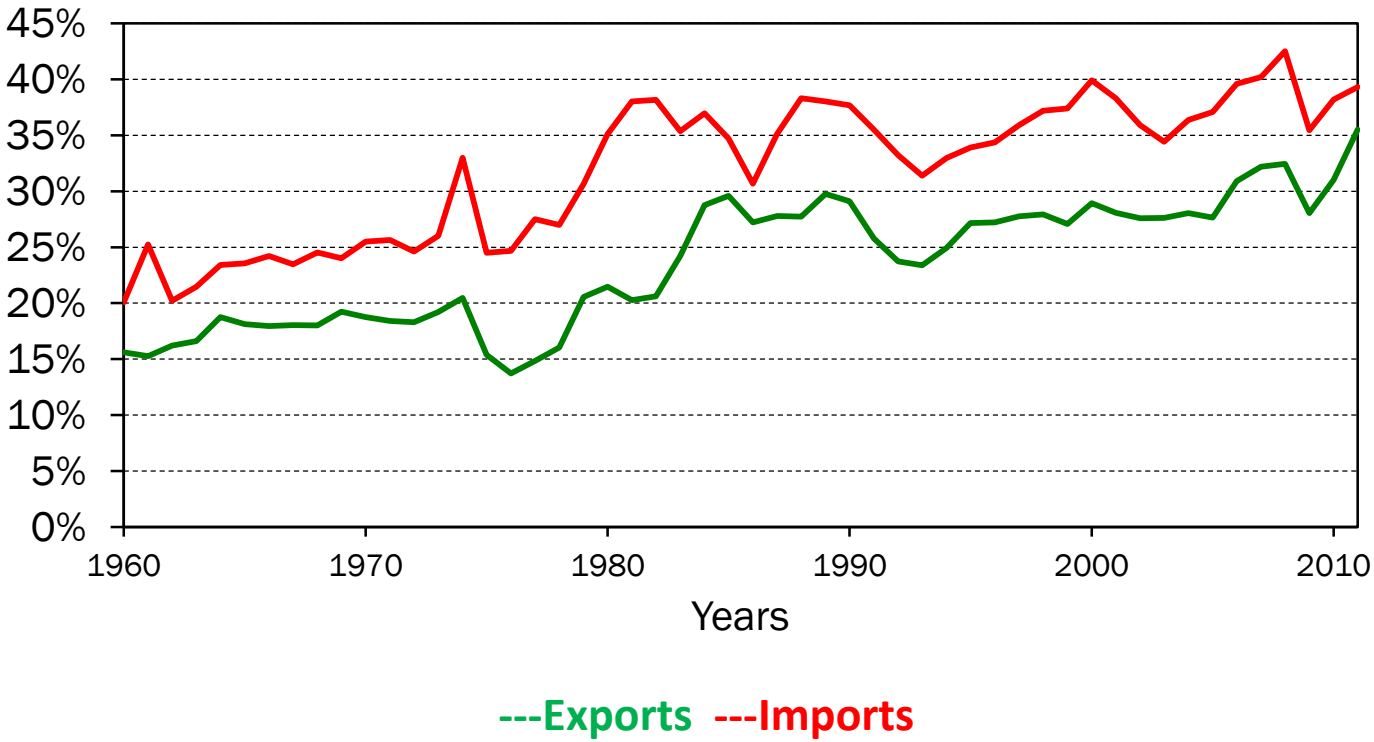
What are Exports (*Ex*)?

- Is the value of goods and services domestically produced and traded in the external markets

What are Imports (*Im*)?

- Is the value of goods and services externally produced and traded domestically, valuated at domestic prices.

Share (%) of Exports and Imports in Domestic Demand (DI) Portugal; Current Prices; 1960-2011



Source: European Commission (2012)

EXPORTS

- In a small and open economy (e. g. Portuguese economy) the exports mainly depend on external demand
- External demand depends on import intentions of our trading partners:
  - Economic activity level of international trading partners that buy the Portuguese goods and services;
  - Competitiveness of Portuguese exports (it means , the greater or lesser capacity to compete in foreign markets with products produced in other countries).

Competitiveness
How is it measured?

- Only price competitiveness will be considered.
- Using an aggregate measure of the relative prices of Portuguese products compared with foreign products.
- Portugal exports to:
  - Economies of the Eurozone (→ Case 1)
  - Non-euro area countries (→ Case 2)

Case 1 – exports to Eurozone economies

- Example:
  - Inflation in Eurozone: 2% per year
  - Inflation in Portugal: 3% per year

  …On average, the Portuguese products lost competitiveness, the Portuguese products are less competitive in a relative perspective.

Relative Price Index (in Portugal) for Eurozone

$$R^{Eur} = \frac{P^{Eur}}{P}$$

- P = Portuguese price index (pure number)
- P^{Eur} = Eurozone price index (idem)

When R^{eur} decreases it means that:

- The increase (in percentage) of Portuguese price index is higher than the increase (in percentage) of Eurozone price index, it means that…
- … inflation in Portugal is higher than in Eurozone;
- Portuguese products lose competitiveness in Eurozone

6.1. Nominal Exchange Rate

Case 2: exports to non-euro area

- Non euro area economies use other currencies (e.g. US dollars USD, UK pounds GBP)
- **Nominal exchange can be presented** by 2 alternative ways (**uncertain** or **certain**)

Nominal Exchange Rate:

- Price in euros, of one unit of foreign currency.
  This is the *uncertain* valuation of the exchange rate.
  Currently, in the Eurozone the inverse valuation is used.

- The nominal exchange rate allows the price conversion *from* foreign currency *to* prices in national/zone currency and *vice versa.*

Microeconomic example:

- Price of FIFA 11 game for PS3 in London = 33.47 pounds
- Is it cheap or expensive (the cost in Lisbon is 49.99 euros)?
- Exchange rate :
  - 1 euro = 0.8528 pounds (certain valuation)
  - 1 pound = 1/ 0.8528 = 1.1726 euros (uncertain valuation)
  - price in euros = exchange rate x price in pounds
  - Price of the game in London:
    - 33.47 pounds
    - 1.1726 x 33.47 = 39.25 euros (is very cheap!)
- The game price in London, in euros, can increase because …
  - The price in pounds increases *or* …
  - …because euro loses value against the pound (GBP) (it is necessary to pay more euros to obtain one pound)

6.2 Real exchange Rate

Measure of competitiveness in general. The external competitiveness (-price) of Portuguese ('our') goods and services depends on:

- domestic Portuguese prices (in euros)
- exchange rate of euro compared with Portuguese trading partners (non-eurozone)

- To measure that competitiveness using a relative price index the following information is needed:
  - domestic price index (***P***);
  - external price index (***P****) linked to external currencies prices;
  - nominal exchange rate index (***e***)

6.2 Real exchange Rate (important formal difference)

In the textbook (Frank & Bernanke 2011; Chapter 14; page 406, eq. (14.1))

$$\textit{Real exchange rate} = \frac{eP}{P^f}$$

In our sessions and exercises

Real Exchange Rate (R):

$$R = \frac{e.P^*}{P}$$

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6.2 Real exchange Rate

The external competitiveness index of national goods and services is referred as Real Exchange Rate, defined as

$$R = \frac{e.P^*}{P}$$

e the nominal exchange rate; ***P*** domestic price level; ***P**** foreign price level (in your textbook P^f)

- **R increases:**
  - Corresponds to an increase in competitiveness;
  - The prices abroad, valuated in euros increased more than the prices in Portugal
- **An increase in R may result from:**

  >>a decrease of the Euro value compared with other currencies (e increases)

  >>Higher inflation rate in foreign countries than in Portugal (increase of P*/P)

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Nominal exchange rate index (e)

- -Reflects the evolution of the various exchange rates, nominal and against the euro, the currencies of countries with which we do business.
- -Is computed based on a weighted mean of individual indexes of nominal exchange rates (current exchange rate/exchange rate of base year)
- - Note that the “nominal exchange rate compared with euro” of the Spanish currency is 1 and does not vary….

6.3. Exchange Rate Systems

The value of the exchange rate…How is it established?

- The currencies are transacted in a (microeconomic) market known as foreign exchange market.
- The nominal exchange rate is the price in that market.
- **Demand for foreign currency:**
  - for import of goods;
  - to travel abroad and import of other services;
  - immigrants send to their families;
  - for investment or for applying savings abroad …

- **Supply of foreign currency:**
  - resulting from exports of goods;
  - resulting from tourism in Portugal and export of other services;
  - resulting from remittances from our emigrants;
  - resulting from foreign investment or foreign savings applications ...
  - The demand for foreign currency is always a supply of domestic currency.
  - The supply of foreign currency is always a demand for domestic currency.

FLEXIBLE Exchange Rate System

In a regime of flexible exchange rates:

- The exchange rate adjusts in order to balance supply to demand for foreign currency.
- The central bank does not intervene in the foreign exchange market.
- A loss in the value of our currency (***e*** increases) is called depreciation.
- A gain in the value of our currency (***e*** decreases) is an appreciation.

FIXED Exchange Rate System

In fixed exchange rate regime:

- Central bank sets the value of the exchange rate.
- The supply and demand for foreign currency by private agents can be different.
- Central bank intervenes in the foreign exchange market by buying or selling foreign currency, eliminating the excess demand or excess supply of private agents.
- The foreign currency reserves of central bank vary.
- Central bank may decide a devaluation (*e* increases) or a revaluation (*e* decreases) the currency.