Economics II

Lecture 12

[redacted]

School of Economics and Management
TECHNICAL UNIVERSITY OF LISBON
SINCE 1911

Lecture 12

Summary

6. External Trade, Exchange Rate and Balance of Payments

6.4. Exports and Imports

6.5. External Trade Evolution

6.6. The Balance of Payments

Bibliography Frank and Bernanke (2011), Chapter 14.

Session learning goals:

- ❑ Understand the import and export linear functions
- ❑ Know the registrations in the Balance of Payments and distinguish the parts of the Balance of Payments

6.4. Exports and Imports

The intentions to import, it means ....
The intentions of the demand for goods and services of produced abroad, depend on:

- positively on the level of domestic economic activity, measured by product Y:
  - for final consumption (e.g. private consumption);
  - for intermediate consumption (e.g. raw materials);
  - for investment (e.g. equipment);
- negatively on the competitiveness of domestic goods and services, measured by R (real exchange rate);
- other factors.

Function representing Imports behavior

$$Im = \overline{Im} + m.Y - a_2.R$$

$$0 \leq m \leq 1 \quad , \quad a_2 \geq 0$$

- Im – intentions of imports ;
- Y – product;
- m – marginal propensity to import ;
- a_2 – sensibility of imports to competitiveness ;
- R – real exchange rate ;
- $\overline{Im}$ - autonomous exports .

The export intentions , it means ...

- ... the intentions of imports from the rest of the world depend:
- positively on the activity level of the rest of the world, measured by the product of the rest of the world, Y^*;
- positively on the competitiveness of domestic goods and services, measured by R;
- other factors.

Function representing Exports behavior

$$Ex = \overline{Ex} + f.Y^* + a_1.R$$

$$0 \leq f \leq 1 \quad , \quad a_1 \geq 0$$

Ex - export intentions;

*Y ** - product from abroad;

f - marginal propensity to import from the rest of the world;

a_1 - sensitivity of export to competitiveness;

$\overline{Ex}$ - autonomous exports.

Suppose that the domestic economy is small compared to the rest of the world, it means that that:

1. the product of the rest of the world does not change significantly with the national variables:

$$Y^* = \overline{Y^*}$$

2. the price level of the rest of the world does not change significantly with the national variables:

$$P^* = \overline{P^*}$$

With this additional assumption we can make a simplification:

We can find a function for the trade balance of goods and services (or net exports):

$$NX = Ex - Im =$$
$$= \overline{Ex} + f.\overline{Y^*} + a_1.R - \left(\overline{Im} + m.Y - a_2.R\right) =$$
$$= \overline{NX} - m.Y + a.R$$

- With the following parameters for the reduced form:

$$\overline{NX} = \overline{Ex} + f.\overline{Y^*} - \overline{Im} \gtreqless 0$$
$$a = a_1 + a_2 \geq 0$$

In a fixed exchange rate system, the Central Bank fixes the exchange rate:

$$e = \overline{e}$$

- In this case, the indicator of competitiveness (real exchange rate) vary only with:

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

  - changes in domestic price index;
  - changes (exogenous) price level in the rest of the world;
  - changes in the exchange rate policy of the Central Bank.

6.5. External Trade Evolution

An indicator of the degree of openness of the economy to the external sector is given by the ratio:

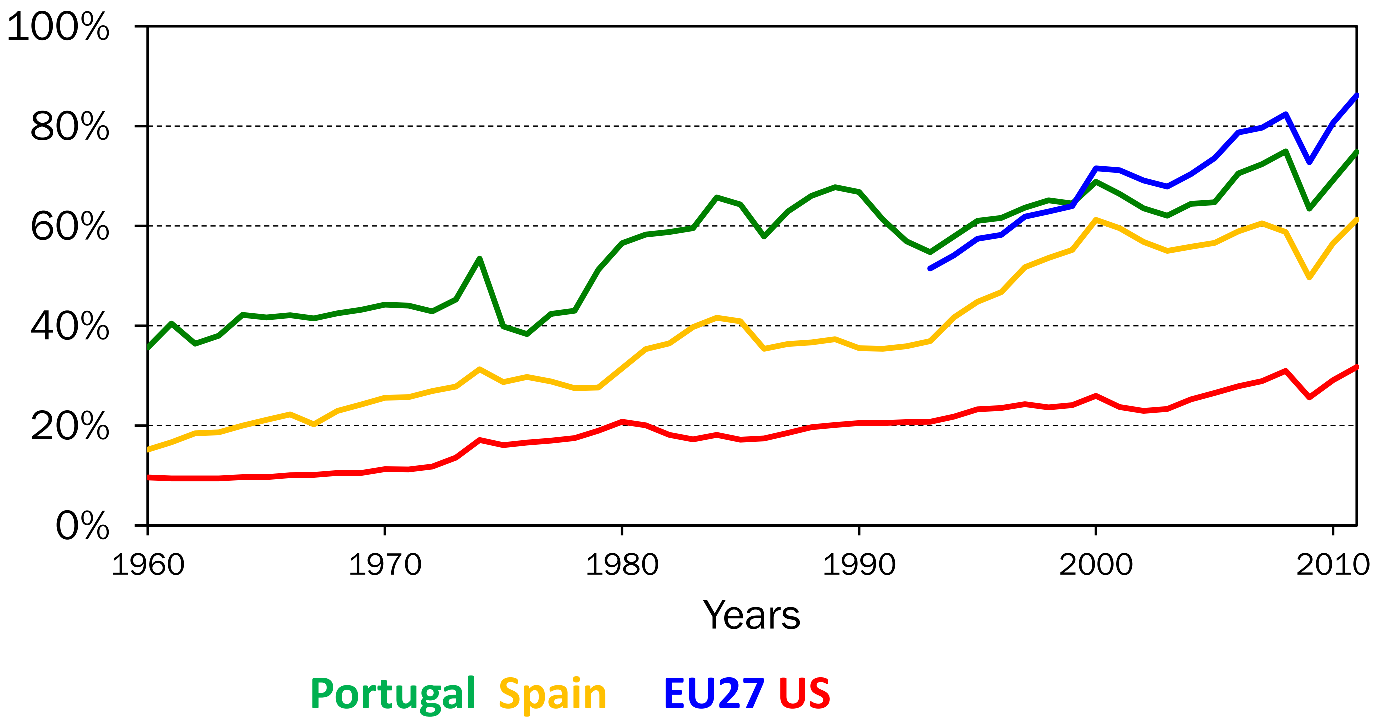
$$\frac{Ex + Im}{Y}$$

This gives the ratio:

between the value of external trade (exports and imports) and … … the GDP.

There are other dimensions of the openness not measured by this ratio (e.g. financial flows).

External Trade as a percentage of GDP (current prices):1960-2011



Source: [European Commission (2012)](#).

NOTE: Presentation slides do not substitute the BIBLIOGRAPHY

6.6. The Balance of Payments

Balance of payments:

- Measures the transactions between the Portuguese economy and the external sector.
- Payment to the external sector abroad - contributes to the deficit.
- Receiving from the external sector - contributes to the surplus.

The transactions with the exterior are registered in various balances that form the balance of payments:

Current balance (BC):

goods; $\Big\}$ *NX*

services;

income;

current transfer → *RPrrm – RPprm*

→ *TCL*

Capital Account (BK):

capital transfers; → *TKL*

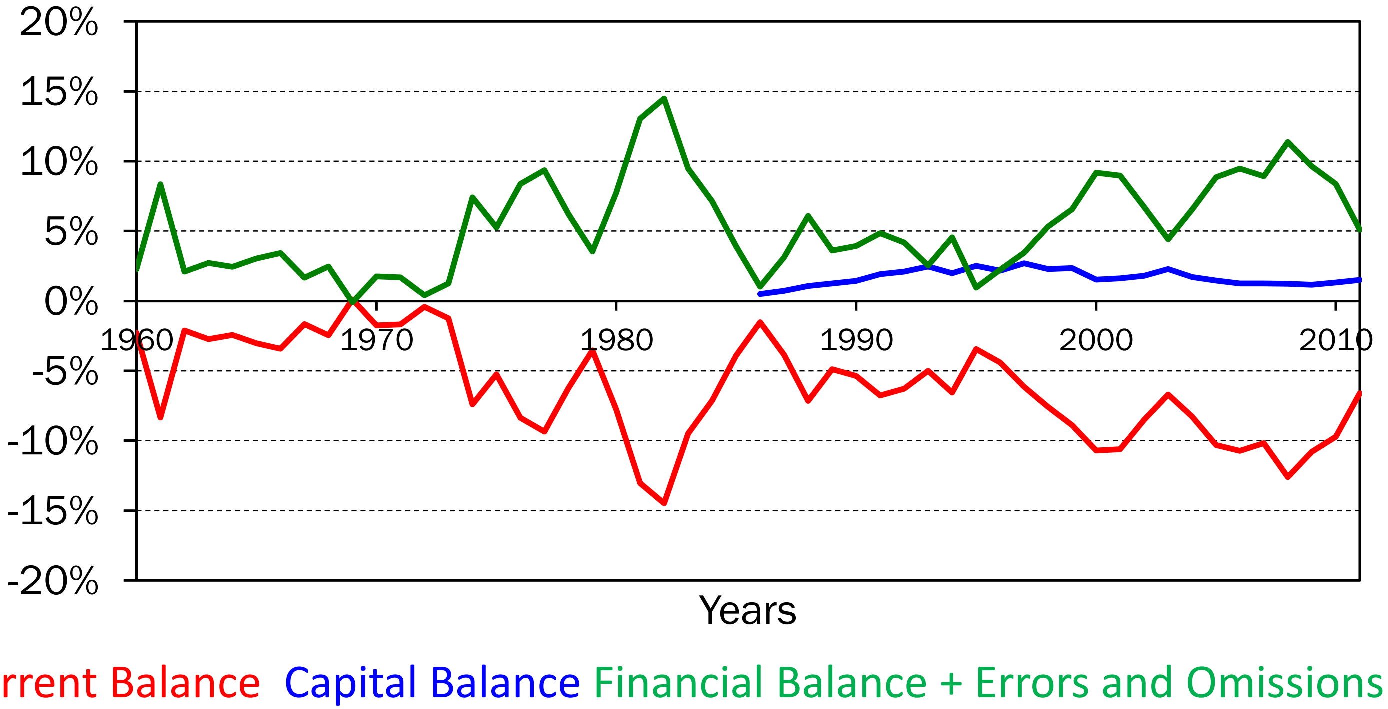
acquisitions less disposals of non-financial non-produced assets

- Financial Balance (BF):
  - Direct "Investment";
  - Portfolio "Investment" ;
  - financial derivatives;
  - another "investment";
  - reserve assets.
- Errors and Omissions (EO)

By construction, the balance of payments is always balanced, ie:

$$BP \equiv BC + BK + BF + EO = 0$$

Main Balances as a percentage of Portuguese GDP (current prices): 1960-2011



Source: [European Commission (2012)].

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Balance of Payments as a percentage of GDP mp in Portugal 2009-2011

	2009	2010	2011
Current Balance	**-10.9%**	**-10.6%**	**-7.0%**
Goods	-10.6%	-11.1%	-8.3%
Services	3.6%	3.9%	4.5%
Income	-5.2%	-4.6%	-5.0%
Current transfers	1.3%	1.3%	1.7%
Capital Balance	**0.8%**	**1.1%**	**1.2%**
Financial Balance	**10.3%**	**9.0%**	**5.7%**
Direct Investment	0.8%	4.4%	-1.6%
Portfolio Investment	8.9%	-5.6%	-2.7%
Financial Derivatives	0.0%	0.2%	0.3%
Other investments	0.5%	10.5%	9.0%
Reserve Assets	0.0%	-0.6%	0.7%
Errors and Omissions	**-0.3%**	**0.4%**	**0.1%**

Source: Banco de Portugal (2012).

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Note that the balance of goods and services (NX) is the only one that directly affects the value of DI(GDP).

- An alternative representation of *NX* is called the rate of coverage of imports by exports:

$$tc = \frac{Ex}{Im}$$

- **If tc = 1 then NX = 0 u.m. (balanced).**
- **If tc> 1 then NX> 0 u.m. (surplus).**
- **If $0 \leq$ tc <1 then NX <0 u.m. (deficit).**