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International Economics: the Exchange Rate

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IE and the Exchange Rate

- This part of International Economics take into consideration macroeconomics aspects such as unemployment, saving, balance of Payment, currency and prices;
- In order to do so it's necessary to introduce the national accounting and the balance of payment system;
- Finally, introduce the PPP (Purchasing Power Parity) and optimal monetary area.

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National Accounts

- GNP (Gross National Product) is the main tool of the national Accounting System and it's the sum of all the goods and services produced and sold in a prefixed period of time;
- Composed by Consumption, Investment, government spending and the net of the current account (Export - Import);
- It's called "National Accounts System (NAS)";
- GNP is the distribution of the result of the production within the factors of production (land, labour and capital).

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National Accounts I

- GDP (Gross Domestic Product) is the GNP (Gross National Product) at the net of the production made by the expatriate and plus the migrants;
- GNP excludes the mortgage and includes the unilateral transfers;
- If GNP is the distribution of the result of the production between land, labour and capital;
- then:

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

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Balance of Payments (BoP)

- Current Account is the net between import and export (real economy);
- And factor income
- Capital account - financial transaction (currency, shares, FDI, Treasury Bonds, etc);
- Copyright;
- BoP works with the rules of double-entry system, it means each transaction should be registered two times: as credit and as debt.

$$\text{Current Account} + \text{factor Income} + \text{Capital Account} = 0$$

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Balance of Payments

	USA		Italy	
Current Account				
(1) Export	1418,6		378,5	
goods	774,9		270,9	
Services	290,9		64,5	
Income (from K & L)	352,9		43,2	
(2) Import		- 1809,2		- 372,0
Goods		- 1224,4		- 253,1
Services		- 217,1		- 64,1
Income (from K & L)		- 367,7		- 54,8
(3) Unilateral Transfers (i.e. Remittances)		- 54,2		- 6,7
Net CA ((1)+(2)+(3))		- 444,7		- 0,2
Capital Account				
(4) Intangible Assets & Unilateral transfers		- 0,7		0,9

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Balance of Payments I

	USA	Italia
Financial Account		
(5) Assets Abroad	- 580,7	- 63,0
FDI	- 152,4	- 24,0
Portfolio of Investment	- 124,9	- 40,1
hedging Instrument		- 0,5
Other Investments	- 303,3	1,5
(6) In reporting Assets	1024,2	59,6
FDI	287,7	16,6
Portfolio of Investment	474,6	32,4
Other Investments	262,0	10,6
(7) Reserve Assets (3,7,6)	- 0,3	0,5
Net financial Account ((5)+(6)+(7))	443,3	- 2,9
Errors & Omissions	0,7	2,1

The Exchange rate

- It's the price of a currency and in an open economy becomes crucial;
- It's highly influenced by its expected value;
- Finally, it's influenced by the investments made by the operators day by day;
- It means, it's influenced by and reacts at its expected variation;
- Depreciation (goods and services are cheaper abroad) and Appreciation.

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Operators

- Commercial Banks;
- Multinational Companies;
- Other Financial Institutions (pension schemes);
- Central Banks: (in order to influence the exchange rate in the open market. Small quantities but they influence the operators).

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Operations

- London, New York, Tokyo, Frankfurt, Singapur; Honk Kong and Shanghai are the most important SE markets
- The majority of the transactions are in Dollar and the Dollar is used as well as vehicle currency for the other weak currencies (i.e: between the Israeli shekel and Mexican Pesos);
- The main objective is to take advantage (profit) through exchange different currencies (arbitrage);
- Two main different operations: spot or forward (insurance).

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Exchange Rate

- Given the following variables:
- R_e = current interest rate on deposit in euro;
- $R_{\$/\epsilon}$ = exchange rate dollar/euro (numbers of dollars per euro);
- $R'_{\$/\epsilon}$ = one year expected exchange rate dollar/euro ...
- then
- $$R_e + (E'_{\$/\epsilon} - E_{\$/\epsilon}) / E_{\$/\epsilon}$$
- Current value of an investment in Euro in dollars using the exchange rate (Exchange rate 1,10);
- Using the interest rate in order to estimate what could be the value next year (i.e. $i=5\%$ then 1,05);
- Use the expected rate (i.e. depreciation dollar at $1,165 \times 1,05 = 1,223$);
- Today 1,10, one year $(1,223 - 1,10)/1,10 = 0,11$

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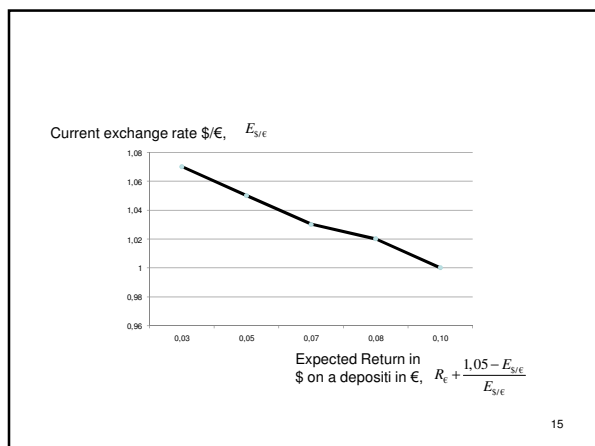
Expected and today rate relationship

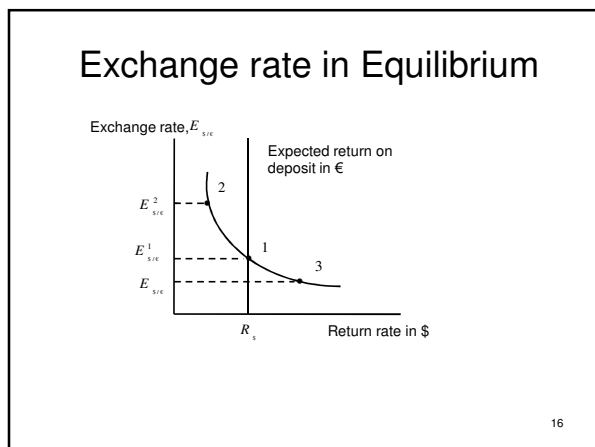
- The exchange rate influence the expected exchange rate. Suppose that the expected exchange dollar/euro rate is 1,05

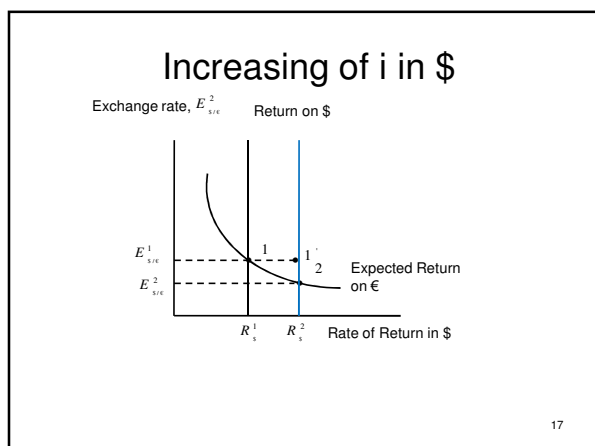
$E_{\$/\epsilon}$	(i in euro) R_e	E(Ex) $\frac{1,05 - E_{\$/\epsilon}}{E_{\$/\epsilon}}$	I \$ deposit in € $R_e + \frac{1,05 - E_{\$/\epsilon}}{E_{\$/\epsilon}}$
1,07	0,05	- 0,019	0,031
1,05	0,05	0,00	0,05
1,03	0,05	0,019	0,069
1,02	0,05	0,029	0,079
1,00	0,05	0,05	0,10

- Therefore the relationship within current and expected exchange rates and return is negative (see the next slide)

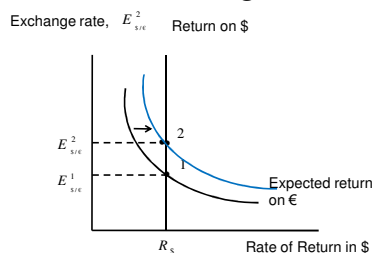
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Increasing i in €



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Reserve currencies (Asimmetry)

- Dollar (Pound) As reserve currency thus the country of origin of the currency has some advantage.
- The Imbalance of Balance of Payments of the reserve currency country is fixed by the other countries.
- This is due to the fact that in the world there N countries and N currencies but there are $N - 1$ exchange rate within them.
- Therefore all the world currencies are pegged at the international reserve currency (Dollar or Pound).
- Finally, we can say that USA can use the monetary policy for internal macroeconomics stabilization.
- This aspect generally generates several problems to the other countries through the exchange rate.
- In fact, the other countries are forced to intervene on the open market through their Central Bank to stabilize the fix the exchange rate. In this way, countries and Central Bank cannot use monetary policy for their own objectives.

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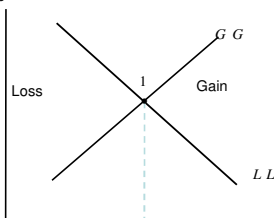
Optimal Currency Area

- How to decide if a geographic or economic areas could be an optimal currency Area?
- USA and the EMU are two very interesting case studies.
- With the EURO currency the European countries aims to extend their influence on the global economy and create a strong internal market.
- However, the development of OCA implies pros and cons for the participate countries.
- In order to test whether it's an OCA thus the countries should take into account different economic, financial and geographical variables.
- In fact, an OCA implies a fixed exchange rate within the countries.
- Therefore implies, at least, they loose their monetary policy and stability but they gain in efficiency..

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In or Out

Gains and costs on entering



Level of economic integration
between the country and the
area of fixed exchange rate

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Does UE is an OCA?

- Up today no:
- Segmented labour market which not allows mobility. This implies regional or national shock are not relaxed through labour migration (mobility Italy 0,6%, Germany 1,1%, Japan 2,6%, USA 3,0%);
- Free Capital Area;
- No national monetary policy;
- No European social policy;
- Intra-european trade is still too weak (on average between 10% and 20%);
- However, the Euro should incentive an increasing of mobility in terms of goods, services, capital and labour;
- There still several things to be done: no political unification, strong national trade union system, no european fiscal policy.

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