

## THE OPEN ECONOMY

National economies are “open” - that is, goods and capital can move across national boundaries

The *balance of payments* measures these movements. Plus items are sales to foreigners; minus items are purchases from foreigners.

Taken as a whole, *the balance of payments always balances*. (Total sales to foreigners = total purchases from foreigners).  
Why?

Because neither foreigners nor domestic residents are doing this for fun! They must be paid - and the payment must come from somewhere

However, there is an important distinction between sales of *goods and services*, which are produced for sale, and of *assets*, which means incurring future obligations.

*Current account* of the balance of payments is net sales of goods and services. (*Trade balance* is net sales of goods only)

*Capital account* is net sales of assets.

*A country that attracts an inflow of foreign capital (capital account surplus) must run a current deficit, and conversely.*

## The US balance of payments, 1996

### *Current account*

*Goods: Exports* +612  
*Imports* -803

*Services Net* +52

*Investment income Earnings* +206  
*Payments* -204

*Unrequited transfers* -40

*Total: -148*

### *Capital account:*

*US investment abroad: -352*

*Foreign investment in US +547*

*Statistical discrepancy* 47

What affects the current account?

1. “Structural factors” - productivity, product quality, world market conditions, etc.. Not much to say in this course.

2. Income: when our economy expands, we tend to import more; when other economies expand, they tend to buy more of our imports

US current account deficit is rising now, because US economy has continued to prosper while many other countries have suffered severe slumps

3. Real exchange rate

## THE EXCHANGE RATE

Exchange rate: price of one currency in terms of another. Usual convention is “price of foreign currency in terms of domestic” E.g., ask a Japanese what is the yen-dollar exchange rate, and he or she will answer “116” - 116 yen per dollar. But US resident will probably also answer 116. (Special role of dollar)

When a currency *appreciates*, it buys more of foreign currencies. When it *depreciates*, it buys less. If the yen goes from 116 to 150, this is a *depreciation* of the yen; from 150 to 116 is an *appreciation*.

Special case: some countries try to fix a value for their currency. When this value is reduced, it is a *devaluation* - as in, “investors fear a devaluation of Brazil’s *real*, but are confident that the Argentine peso will remain pegged to the dollar at a rate of 1 to 1”.

## THE REAL EXCHANGE RATE

Suppose the yen goes from 116 to 140. This would make Japanese goods cheaper in the US, US goods more expensive in Japan - but not if there was a lot of inflation in Japan, or a lot of deflation in the US. The *real exchange rate* corrects for possible changes in price levels. It is defined as

$$\epsilon = \frac{EP^*}{P}$$

where E is exchange rate (domestic currency per foreign), P is domestic price level, P\* is foreign price level.

A *depreciation* of the real exchange rate makes domestic goods relatively cheaper, and hence increases exports, reduces imports, and moves the current account in a positive direction:

$$CA = CA(Y, Y^*, \epsilon)$$

## THE CAPITAL ACCOUNT

1. Can be affected by perceptions of risk, political uncertainty, etc..
2. We usually focus mainly on two factors: interest rates and exchange rate expectations

Consider a Japanese investor; can invest in either yen (¥) or \$ bonds. Which is better?

	<i>Year t</i>	<i>Year t+1</i>
¥	¥ 1	¥(1+i) ¥(1+i*)(E <sup>e</sup> <sub>t+1</sub> /E <sub>t</sub> )
\$	\$1/E <sub>t</sub>	\$(1+i*)/E <sub>t</sub>

So the basic *arbitrage relation* is

$$1+i_t = \left( \frac{1}{E_t} \right) (1+i^*_t)(E^{e_{t+1}})$$

Or, approximately,

$$i_t = i^*_t + \frac{E^{e_{t+1}} - E_t}{E_t}$$