

## Macroeconomic Definitions -- Dr. Tom McGahagan -- Spring 2005

### VIII. OPEN-ECONOMY MACROECONOMICS

1. **Balance of payments.** Accounts describing the international transactions of an economy over the course of a quarter or year. Since the balance of payments accounts include the current account and the capital account, it will always balance -- there is no such thing as a “balance of payments deficit”.

2. **Current account.** International accounts which include the balance on merchandise trade, the services balance, income earned abroad and unilateral transfers. This item corresponds to the  $X - M$  or **net exports** item in the National Income and Product Accounts (GNP would include all items, GDP would exclude income earned abroad).

3. **Capital account.** The account of international asset transactions for a country, including changes in the ownership of companies (**direct foreign investment**), the acquisition or sale of stocks and bonds, and international banking transactions. Current practice is to include **official reserve transactions** as part of the capital account, but older practice was to distinguish the two.

4. **Net foreign investment.** Identical to the capital account in absolute value. If we have a trade surplus, we will be acquiring foreign currency, which we will use to acquire foreign assets -- shares of stock, bonds or bank accounts. Note that “net foreign investment” has a positive sign when we are doing the investment abroad.

5 **Foreign investment position.** Refers to the overall holding of foreign assets, in contrast to net foreign investment, which is the year to year change in investment position.

6. **Official reserve transactions.** Although now included as part of the capital account, the holding of foreign assets by the Federal Reserve is worth special attention, because the purchase of foreign assets by the Fed will expand the domestic money supply, and the sale of foreign assets by the Fed will contract the domestic money supply. The impact is exactly the same as in the case of open market operations -- if the Fed buys Treasury bonds, gold or German marks, it is issuing a check which will be added to the reserves of banks.

7. **Intervention.** The attempt by a central bank or government to adjust the value of its currency by buying or selling it on international markets. Given the very large size of international currency markets (about 1.5 trillion a day in 1998), the ability of a government to fix or **peg** the value of its currency is very limited.

8. **Floating exchange rate** – an exchange rate determined by the market interplay of supply and demand, without government intervention. (Complete absence of intervention = **clean float**; occasional intervention = **dirty float**).

9. **Exchange rate.** The **nominal exchange rate** is the price of one currency in terms of another. If you can buy two German marks (DM = Deutsche mark) for a dollar, the exchange rate is:  $e(\$/DM) = 0.5000$  or  $e(DM/\$) = 2.0000$ . Note that the exchange rate can be expressed in two different ways.

**10. Appreciation or depreciation.** A rise (or fall) in the value of a currency in terms of another. If you can buy three DM for a dollar, the dollar has risen in value against the DM (compared to the example in the definition of the exchange rate); since  $e(\text{DM}/\$) = 3.0000$  rather than 2.0000. Note that  $e(\$/\text{DM})$  has gone down from 0.5000 to 0.3333 – the dollar has appreciated and the mark has depreciated.

**11. Real exchange rate.** The real exchange rate compares the prices of a bundle of goods and services on international markets, not simply the prices of currencies. The real exchange rate is defined as the **nominal exchange rate times the ratio of the price indices of the two countries**, and gives the **price ratio of a bundle of goods in a common currency**. Specifically,

$$\text{REX} = \frac{e(\text{DM}/\$) P(\text{US})}{P(\text{Ger})}$$

The numerator multiplies the exchange rate (2 DM per dollar, say) by the US price index (let us say 120); the numerator is the German price index (say 360). With these numbers, the real exchange rate is  $240/360 = 2/3$ . US goods are, on average,  $2/3$  the price of German goods when both sets of prices are translated into German marks. Should the German price index fall to 180, the real exchange rate will be  $240/180 = 4/3 = 1.33$  indicating that US goods are more expensive than German goods when both sets of prices are translated into marks.

**12. Law of One Price** – Goods of the same quality will trade for the same price in a free market in the absence of transportation charges or tariffs. If the prices in the definition of the real exchange rate are the prices of a specific good, we would expect their ratio to be one or else for trade to flow in only one direction. If the price of US wheat is \$ 5 a bushel, and the exchange rate is 2 DM per dollar, then Germans can buy US wheat by taking 10 DM, buying \$5 on foreign exchange markets, and then buying 1 bushel of US wheat. If German wheat were more expensive than 10 DM, in the absence of quality differences, transportation costs or tariffs, Germans would buy US wheat and the German wheat farmer would be forced to either lower his prices or go out of business.

**13. Purchasing Power Parity** is the theory that holds that the nominal exchange rate will adjust to prices levels so that the real exchange rate will always be one. The theory was first developed by Gustav Cassell after the First World War as a guideline to anticipating changes in exchange rates when national inflation rates differed. The theory declares that the Law of One Price holds even if the “prices” in the real exchange rate formula are Consumer Price Indices.

PPP is only a very approximate indicator of exchange rates, since:

- a. Consumer Price Indices include non-traded as well as traded goods.
- b. Financial flows are more important than trade flows in the international economy today, and the CPI or GDP deflator does not reflect the anticipated prices of financial assets.