1   Introduction to International Finance

The rest of this course will be devoted the study of international financial markets. In this lecture we will explore certain concepts that we will use in the subsequent lectures.

- **Balance of Payments** is the record of a country's transactions with the rest of the world. Terms like trade surplus and deficit are used to describe if the country has more or exports than imports or imports than exports. More specifically, a country has trade surplus if value of exports exceed that of imports. A country has trade deficit if the value of its exports falls short of the value of its imports. US has been experiencing trade deficits since 1975.

- **The exchange rate** is the price of a currency in terms of another. Currencies are traded extensively in international markets. The highest volume of foreign exchange trading occurs in London. The reason possibly is the fact that London possesses the advantage of overlapping both Asian and American business hours. The other major trading centers are New York and Tokyo.

- The foreign exchange market is the world's largest financial market. The estimated volume of trading in 1999 was approximately $1,300 billion per day, which is approximately equivalent to the value of annual US GNP transacted every 7 or 8 days. The U.S. dollar is the most popular traded currency.

- **Purchasing power parity (PPP)** relates the relationship between exchange rates and prices between two countries. If a hamburger sells for $1 in US and 1 Euro in Europe then what exchange rate between US and Europe would yield the same hamburger price when dollars are converted into Euro or Euro are converted into dollars? If the exchange rate is 1 Euro per dollar then 1 dollar worths 1 Euro and the hamburger costs same in Europe and US. In this case we say that PPP holds for Euro and US dollars because the purchasing power of the two currencies is the same. If the exchange rate was 1.5 Euros per dollar then

1 US dollar worths 1.5 Euros and PPP then does not hold as hamburgers are cheaper in US dollars in Europe.

- Is there a relationship between exchange rates and interest rates? As we will learn later in detail, yes there is. Interest rates differ across countries. Interest rate differentials across countries reflect expected exchange rate changes. A high interest rate country typically has a currency that is expected to depreciate in value relative to the currency of low interest rate country.

  Example:

  You can earn 5 percent interest on a one-year bank deposit of $10,000 in US. Alternatively, you can convert the $10,000 into euros and earn 3 percent on a one-year bank deposit in France. If the exchange rate is initially 1.2 euros per dollar and then changes to 1.1 euros per dollar in one year, which deposit would have given you higher return?

2   National Income Accounting in the Open Economy

- $Y = GDP$ is the value of goods and services produced in the domestic economy. In the *closed economy* (no foreign sector), ignoring capital depreciation, GDP is equal to national income which in turn is equal to GNP.

$$Y = C + I + G = C + S + T$$

  where C=consumption expenditures, I=Investment expenditures, G=government expenditures, S=Saving, T=Tax revenues.

- In the *open economy* it is possible to earn income from foreign sources. Dividends on foreign equities, interest on foreign bonds, labor income from consulting, license fees from foreign countries, etc. Let R=net income from foreign sources, X=exports of goods and services, M=imports of goods and services. Then

$$GNP = Y + R = C + I + G + (X - M) + R \tag{1}$$

Rearranging equation (1);

$$Y - (C + I + G) = X - M + R = CA \qquad (2)$$

The right hand side of equation (2) is the current account (CA). The left hand side is the national saving. A nation saves by building up claims on the rest of the world. A current account surplus signifies that the country is saver. A current account deficit signifies that the country is going into debt. (2) can be restated as;

$$CA = (Y_T) - C - I + T - G = (S - I) +)(T - G) \qquad (3)$$

This last equation tells us that the current account is the sum of the private saving-investment (S-I) imbalance and government saving (T-G). Hence a CA deficit can be caused by (i) by a consumption boom, (ii) by an investment boom, (iii) government budget deficit.

3 The Balance of Payments

The *balance of payments* (BP) is a record of all transactions between domestic residents and the rest of the world. Examples include among many; goods and services, license fees, interest income, dividends, real assets (factories, land), financial assets (stocks, bonds, bank deposits, loans), unilateral transfers (foreign aid, private gifts).

- Balance of payments contains sub accounts; Current Account, Capital Account (Financial Account), and Official Reserves.

- Due to the accounting practice of double entry bookkeeping, the BP accounts always add to zero. In this sense, the BP is always in equilibrium. However, the components accounts will generally be in imbalance and the interesting economic interpretations center on the sign and magnitudes of the individual sub accounts.

- The defining principle of the BP accounts is the flow of currency, and not the flow of goods or capital.

- Rule: sell something to rest of the world, receive payment$\Rightarrow$ enters as a credit (+)

  Examples: Exports of goods and services

  Receipt of unilateral gifts from abroad

  Sales of US assets to foreigners

  Inflows of reserve assets

  All of these transactions give rise to a decline in foreign currency (and a rise in US dollar) and need to be recorded as positive entries in the US BP accounts.

- Rule: buy something from rest of the world, make payment $\Rightarrow$ enters as debit (-).

  Examples: Imports of goods and services

  Unilateral transfers to foreigners

  Purchase of foreign assets

  Outflows of reserve assets

  These transactions are all associated with producing a supply of US dollars and give rise to negative entries in the US BP accounts.

- Think: all international transactions require foreign currency. All credit transactions give rise to supply of foreign exchange. All debit transactions give rise to demand for foreign exchange.

- Foreign exchange is foreign currency. We state the exchange rate as the domestic currency price (dollar price) of foreign currency. So when the exchange rate goes up, the home currency goes down in value. The foreign currency goes up in value.

- Current Account (CA)

  1. Merchandize trade—-X (+), M (-)

  2. Services ————consulting income, dividends, interest, license fees

  3. Unilateral transfers–gifts to foreigners (-), gifts from foreigners (+), US foreign

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aid (-).

- Financial Account-Capital Account(FA)

  1. Foreign direct investment (real capital). Toyota builds a factory in US (+). Ford buys Jaguar corporation in the UK (-).

  2. Portfolio capital. Security purchases i.e. private sector (US households), net purchases of equity stock and debt securities-bonds.

  - Long term:Assets with maturity exceeding 1 year. Stocks, bonds, long-term debt.

  - Short term: Assets with maturity less than 1 year.

- Official Settlements Account(OSA)

  1. Central Bank purchases or sales of foreign exchange. We call these foreign exchange market interventions.

  2. Sales of foreign exchange hold down the value of foreign currency, prop up the value of the home currency. Foreign exchange sales are credits. Foreign exchange purchases are debits.

  3. Gold, Special drawing rights (SDRs), and reserve position in the IMF.

- Balance on CA+Balance on FA+Balance on OSA=0

- The combined balance on the CA and on the FA is commonly called the balance of payments. These are records of transactions by all actors in the economy except the central bank. A balance of payments deficit represents an excess demand for foreign currency.

- The BP is always zero for countries that operates under a system of perfectly flexible exchange rates. They let the exchange rate be determined by the laws of

supply and demand. When supply equals demand, excess demand=excess supply=0.

- If balance of CA and FA is in deficit, then the central bank needs to reduce its holdings of foreign currencies and/or gold.

- "Countries run into BP problems when central bank intervenes to control the exchange rate".

- How foreign exchange interventions affect the money supply?

  - B=Monetary base=money liabilities of the central bank. The base consists of currency and deposits at the central bank (usually deposits made by commercial banks in the banking system). We'll assume that the money supply is equal to the base (M=B).

  - DC=domestic credit extended by the central bank. Includes holdings of government debt and loans to banking system.

  - FA(cb)=foreign assets of the central bank. This is foreign exchange reserves and bonds of foreign governments.

  - M=B=DC+FA(cb). This illustrates that foreign exchange interventions affect the money supply.