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“Foreign Exchange management”
Part VI (lecture 12)
“Foreign exchange variables”

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The Foreign Exchange Market

- ✓ In this chapter, we will discuss:
 - **Form and function of the foreign exchange market**
 - **Difference between spot and forward rates**
 - **Determinants of currency exchange rates**
 - **Foreign exchange risk and the exchange market**
 - **Exchange rate forecasting**
 - **Convertibility of currencies**
 - **Countertrade as convertibility mitigation factor**

Foreign Exchange

- **The foreign exchange market** : Is the market where one buys or sells the currency of country A with the currency of country B
- **A currency exchange rate** : Is simply the ratio of a unit of currency of country A to a unit of the currency of country B at the time of the buy or sell transaction,

Foreign Exchange Market

- Currency conversion in the foreign exchange market:
 - ✓ Is necessary to complete private and commercial transactions across borders
 - ✓ A tourist needs to pay expenses on the road in local currency
 - ✓ A firm
 - Buys/sells goods and services in the other country's local currency
 - Uses the foreign exchange market to invest excess funds
- Is used to speculate on currency movements

Foreign Exchange Market

- Minimizes foreign exchange risk (unpredictable rate swings)
- To do so there are different ways to trade currencies
 - Spot exchange rates: the day's rate offered by a dealer/bank
 - Forward exchange rates:
 - Agreed in advance rates to buy/sell a currency on a future date
 - Usually quoted 30, 90, 120 days in advance

Foreign Exchange Market

- The market is “open” 24 hours...
- **Arbitrage** : is the process of buying low and selling high ...
 - this happens when there is given slightly different exchange rate quotes in one location vs another (e.g., London vs Tokyo)

Prices and Exchange Rates

➤ **The law of one price:**

Identical products sold in different countries must sell for one price if their price is expressed in one currency

▪ **Assumptions:**

- Competitive markets
- No transportation costs; no trade barriers

➤ **Purchasing Power Parity (PPP):**

If the law of one price holds for all goods / services, the PPP exchange rate is found by comparing prices of identical products in different countries

Purchasing Power Parity (PPP):

- **Purchasing power parities (PPPs)** are the rates of currency conversion that equalise the purchasing power of different currencies by eliminating the differences in price levels between countries.
- In their simplest form, PPPs show the ratio of prices in national currencies of the same good or service in different countries.
- PPPs are also calculated for groups of products and for each of the various levels of aggregation up to and including GDP..

Purchasing Power Parity (PPP):

- The basket of goods and services priced is a sample of all those that are a part of final expenditure: household consumption, government services, capital formation and net exports, covered by GDP.
- This indicator is measured in terms of national currency per US dollar

The Big Mac Index: An Example of PPP

- **The Big Mac index suggests, in theory,** changes in exchange rates between currencies should affect the price consumers pay for a Big Mac in a particular nation, replacing the "basket" with the famous hamburger.
 - This is a prime example of how the "law" of one price fails in practice.
- For example, if the price of a Big Mac is \$4.00 in the U.S. and 2.5 pounds sterling in Britain,
 - we would expect the exchange rate to be 1.60 ($4/2.5 = 1.60$).

The Big Mac Index: An Example of PPP

➤ If the exchange rate of dollars to pounds is any greater, the Big Mac index would state the pound was overvalued, any lower and it would be undervalued.

Money Supply and Currency Value

- Inflation occurs when the quantity of money in circulation rises faster than the stock of goods and services.
- Money supply growth related to currency value.
- Relative inflation rates and trends can predict relative exchange rate movements.
- When changes in relative prices in two countries change their currencies' exchange rate, then the currency of the country with the highest inflation should decline in value.

Interest Rates and Exchange Rates

- Interest rates reflect expectations of inflation rates;
 - high interest rates reflect high inflation expectation
 - Fisher Effect: $i = r + I$
 - i : “nominal” interest rate in a country
 - r : “real” interest rate
 - I : inflation over the period the funds are to be lent
 - International Fisher Effect:

$$E = [(i_1 - i_2) / (1 + i_2)] \approx (i_1 - i_2)$$

Interest Rates and Exchange Rates

- International Fisher Effect:

$$E = [(i_1 - i_2) / (1 + i_2)] \approx (i_1 - i_2)$$

For any two countries the spot exchange rate should change in an equal amount but in the opposite direction to the difference in nominal interest rates between the two countries

- Where:

E represents the percentage change in exchange rate

i_1 represents the interest rate of country A

i_2 represents the interest rate of country B

Interest Rates and Exchange Rates

- An example may help to understand the value of the theory.
- For example, if the interest rate of country A is 10% and that of country B is 5%, then the currency of country B should appreciate roughly 5% compared to the currency of country A.

Convertibility

➤ **Currency convertibility and government policy**

- **Freely convertible**: residents/non-residents allowed to purchase unlimited amounts of a foreign currency with the local currency
- **Not freely convertible**: residents/non-residents not allowed to purchase unlimited amounts of a foreign currency with the local currency

➤ There are two exchange rate systems:

- Fixed exchange rate
- Floating exchange rate

Fixed and Floating exchange rates

✓ Fixed Exchange Rates

- A fixed rate is a rate the government (central bank) sets and maintains as the official exchange rate.
- A set price will be determined against a major world currency (usually the U.S. dollar, but also other major currencies such as the euro, the yen or a basket of currencies).
- In order to maintain the local exchange rate, the central bank buys and sells its own currency on the foreign exchange market in return for the currency to which it is pegged.

Fixed and Floating exchange rates

✓ Example,

It is determined that the value of a single unit of local currency is equal to US\$3,

- the central bank will have to ensure that it can supply the market with those dollars. In order to maintain the rate, the central bank must keep a high level of foreign reserves.
- foreign reserves : a reserved amount of foreign currency held by the central bank that it can use to release (or absorb) extra funds into (or out of) the market. The central bank can also adjust the official exchange rate when necessary.

Fixed and Floating exchange rates

✓ Floating Exchange Rates

- Unlike the fixed rate, a floating exchange rate is determined by the private market through supply and demand.
- A floating rate is often termed "self-correcting," as any differences in supply and demand will automatically be corrected in the market.
- ✓ Look at this simplified model: if demand for a currency is low, its value will decrease, thus making imported goods more expensive and stimulating demand for local goods and services. This in turn will generate more jobs, causing an auto-correction in the market. A floating exchange rate is constantly changing.