

**Note: Factors determining expected real returns**

To calculate the expected real return to saving money in a ROW vs an HC deposit account over a desired period, an investor needs to consider two possible sources of profits/loss:

1. Expected movement in the real exchange rate over the holding period

Suppose an investor correctly anticipates a RISE in the Yen/USD real exchange rate. The investor can then make profits for sure by:

2. Real interest rate in the ROW and in the HC during the desired holding period

Suppose an investor correctly anticipates that the US real interest rate will be higher than the Japanese real interest rate during period T

➔ To calculate the expected real return to saving money in a ROW vs. an HC deposit account over a desired holding period, an investor needs to consider two possible sources of profit or loss:

- Expected movement in the real exchange rate over the desired holding period;
- Real interest rate in the ROW and in the HC during the desired holding period.

### **Interest rate parity (real form)**

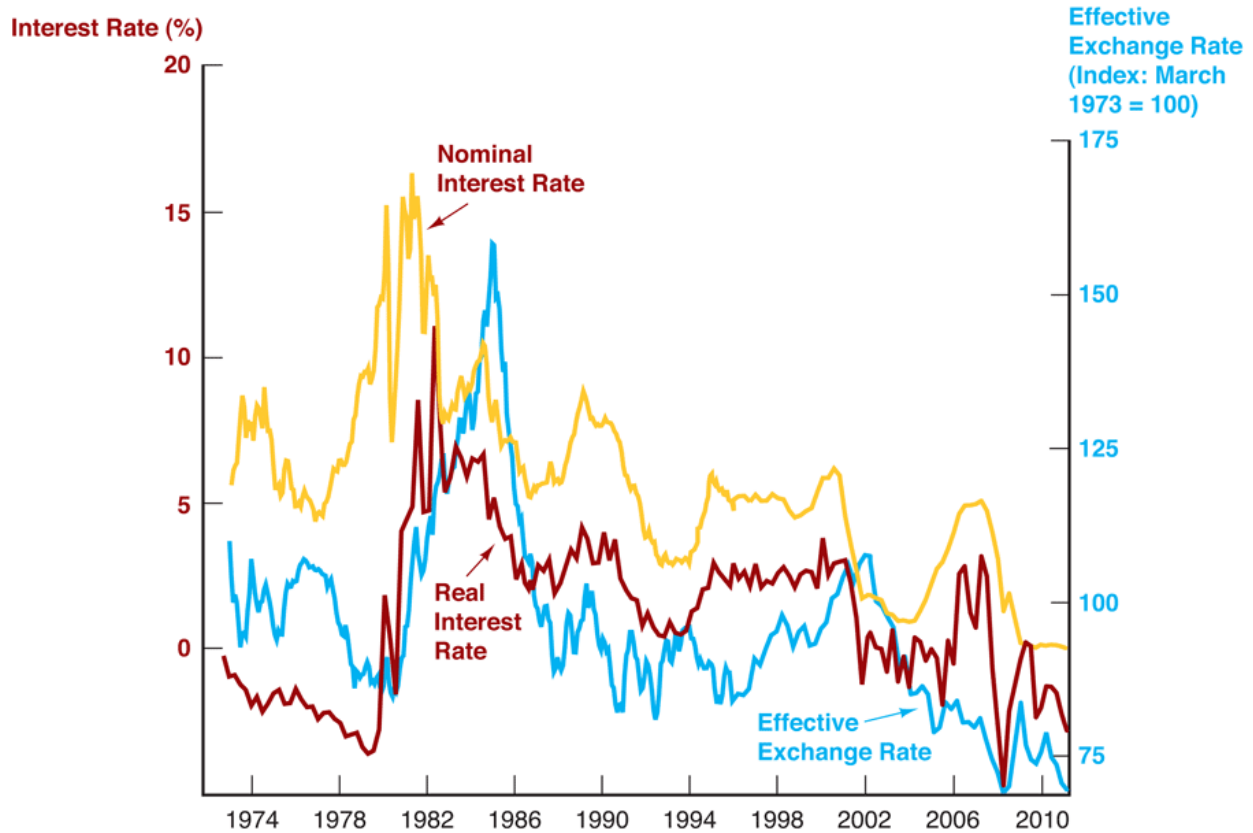
Suppose that ROW and HC deposit accounts are equally risky as financial investments.

Suppose that there are also no barriers to currency flows between the ROW and HC.

Then the currency will flow between the ROW and the HC until the expected real return rates on ROW and HC deposit accounts are equal.

## Empirical Support?

**Figure 8 Value of the Dollar and Interest Rates, 1973–2010**



- In the U.S., the real interest rate and the effective (i.e., trade weighted) exchange rate tend to rise and fall together.

**Can Interest Parity help to explain this observed positive correlation?**

## **Interest rate parity (nominal form)**

## **International Fisher Effect**

Combining the Interest Parity Condition with the Purchasing Power Parity Condition (PPP) gives:

## **APPLICATION: Effects of Changes in Interest Rates on the Equilibrium Exchange Rate**

- Changes in Interest Rates
  - When domestic real interest rates raise, the domestic currency appreciates.
  - When domestic interest rates rise due to an expected increase in inflation, the domestic currency depreciates.
- Changes in the Money Supply
  - A higher domestic money supply causes the domestic currency to depreciate.

### **Figure 7 Effect of a Rise in the Domestic Interest Rate as a Result of an Increase in Expected Inflation**

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**Application: The Global Financial Crisis and the Dollar**

- During 2007 interest rates fell in the United States and remained unchanged in Europe.
  - The dollar depreciated
- Starting in the summer of 2008 interest rates fell in Europe.
- Increased demand for U.S. Treasuries “flight to quality”
  - The dollar appreciated

## Chapter 19 - The International Financial System

### Foreign Exchange Market Intervention and Money Supply

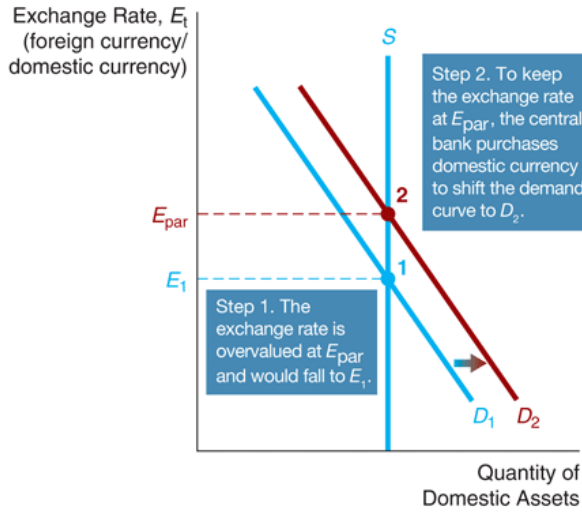
- A central bank's purchase of domestic currency and corresponding sale of foreign assets in the foreign exchange market leads to an equal decline in its international reserves and the monetary base
- A central bank's sale of domestic currency to purchase foreign assets in the foreign exchange market results in an equal rise in its international reserves and the monetary base
- Unsterilized foreign exchange intervention:
  - An unsterilized intervention in which domestic currency is sold to purchase foreign assets leads to a gain in international reserves, an increase in the money supply, and a depreciation of the domestic currency



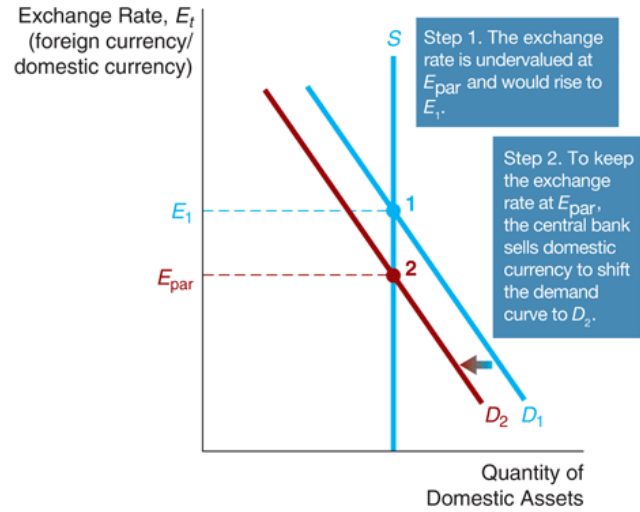
## Exchange Rate Regimes in the International Financial System

- **Fixed exchange rate regime**
  - Value of a currency is pegged relative to the value of one other currency (anchor currency)
- **Floating exchange rate regime**
  - Value of a currency is allowed to fluctuate against all other currencies
- **Managed float regime (dirty float)**
  - Attempt to influence exchange rates by buying and selling currencies
- **Gold standard**
  - Fixed exchange rates
  - No control over monetary policy
  - Influenced heavily by production of gold and gold discoveries
- **Bretton Woods System**
  - Fixed exchange rates using U.S. dollar as reserve currency
  - International Monetary Fund (IMF)
  - World Bank
  - General Agreement on Tariffs and Trade (GATT)
    - World Trade Organization
- **European Monetary System**
  - Exchange rate mechanism
- When the domestic currency is overvalued, the central bank must
  - purchase domestic currency to keep the exchange rate fixed (it loses international reserves), or
  - conduct a devaluation
- When the domestic currency is undervalued, the central bank must
  - sell domestic currency to keep the exchange rate fixed (it gains international reserves), or
  - conduct a revaluation

**Figure 2 Intervention in the Foreign Exchange Market Under a Fixed Exchange Rate Regime**



(a) Intervention in the case of an overvalued exchange rate



(b) Intervention in the case of an undervalued exchange rate

