International Economics

Part 1

Exchange Rate

- **Exchange Rate**: a relative price (ratio of two prices) between domestic currency and foreign currency
- **Foreign Exchange Market**: a global decentralized market for the trading of currencies
  - Govt cannot control this market, but it can control exchange rate by buying and selling in this market.

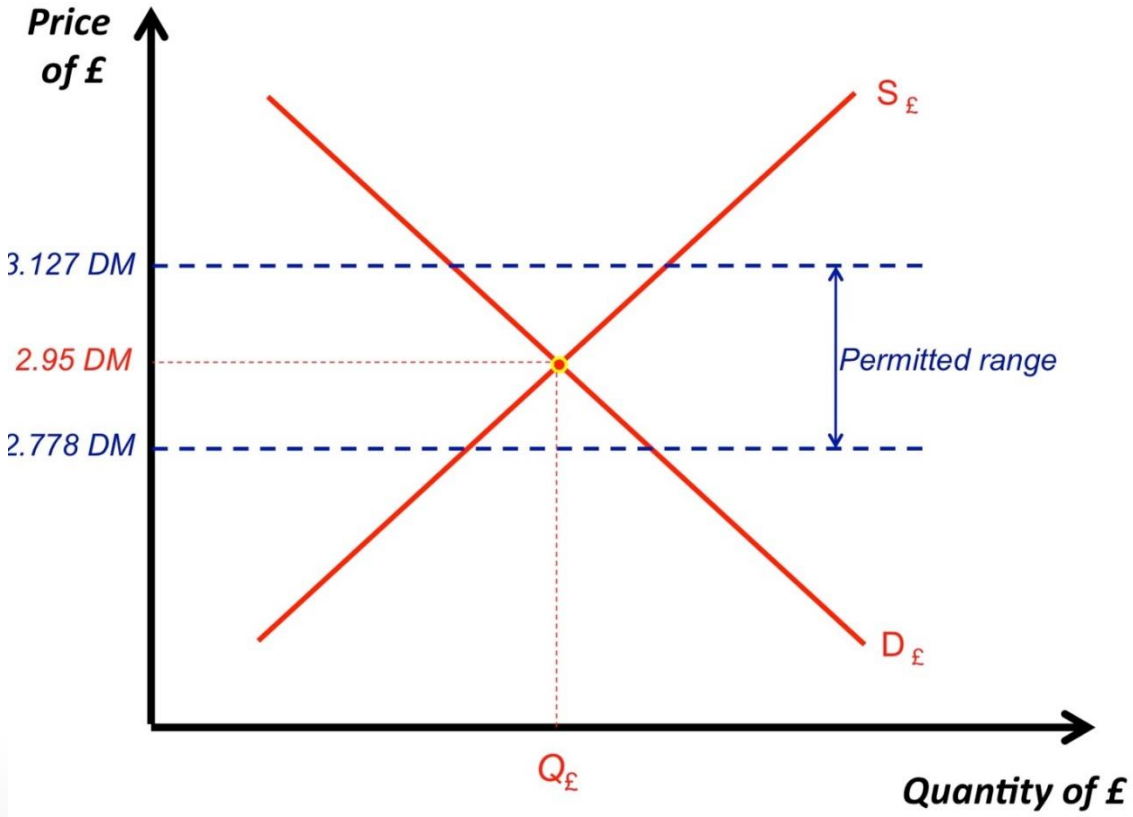
- For example, (baht is domestic currency)
  - 30 baht / 1 US dollar (direct quote)
  - 0.03 US dollar / 1 baht (indirect quote)

3 Exchange Rate Regimes

- **Floating Exchange Rate**
  - The "**equilibrium**" exchange rate is determined by the demand and supply of the currency.
- **Fixed (Pegged) Exchange Rate**
  - The exchange rate of is controlled by the central bank.
  - The central bank can buy/sell "foreign reserve" to control the supply and demand of the currency.
- Managed Float Exchange Rate (commonly used)
  - The exchange rate is controlled within a certain range, but can fluctuate around within such range.

Managed Float Exchange Rate

- The Govt will intervene the foreign exchange market when the exchange rate fluctuates beyond the permitted range.



Key Terms

The Supply of and Demand for Thai Baht

- Governments, private citizens, banks, and corporations exchange baht for dollars and dollars for baht every day.
- **Those who demand Baht** are holders of dollars (e.g. US citizens) seeking to exchange them for baht.
- **Those who supply Baht** are holders of baht (e.g. Thai citizens) seeking to exchange them for dollars.

Key Terms

In Floating Exchange Rate Regime,

- **Appreciation** of a currency The rise in value of one currency relative to another.
- **Depreciation** of a currency The fall in value of one currency relative to another.

For example, from 30 THB / 1 USD to 33 THB / 1 USD,

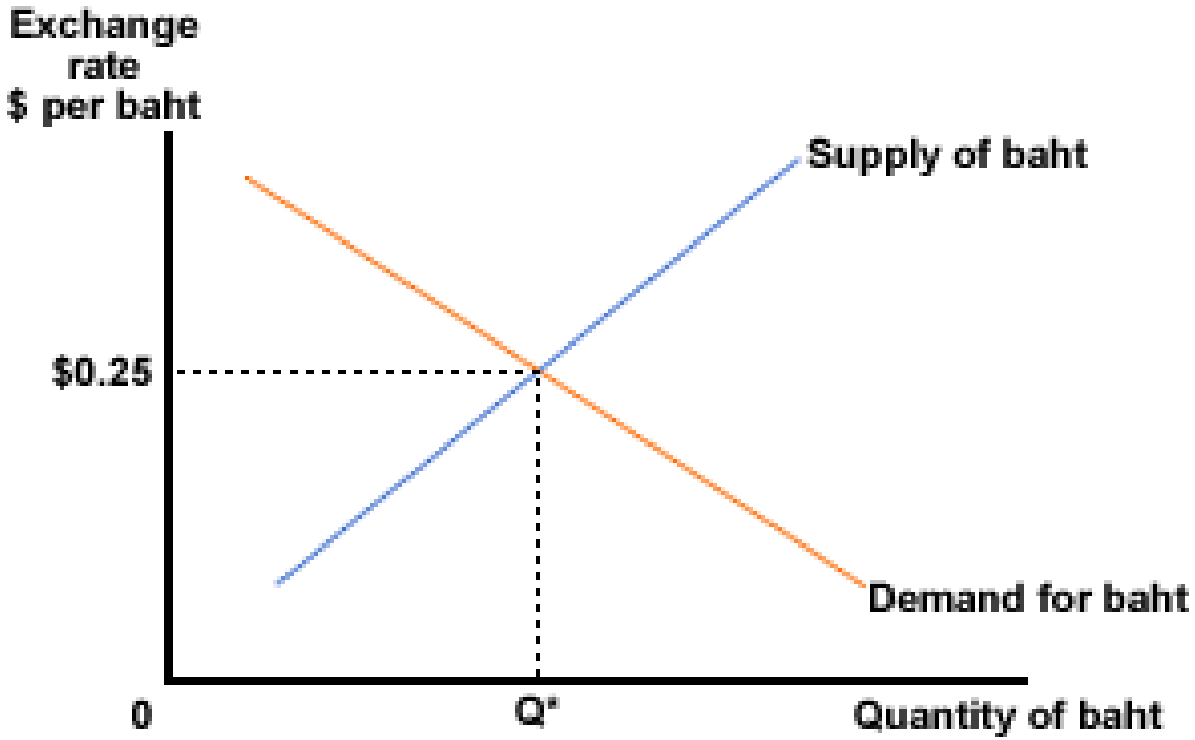
- Depreciation of THB
- Appreciation of USD

Key Terms

In Fixed Exchange Rate Regime (set by the central bank),

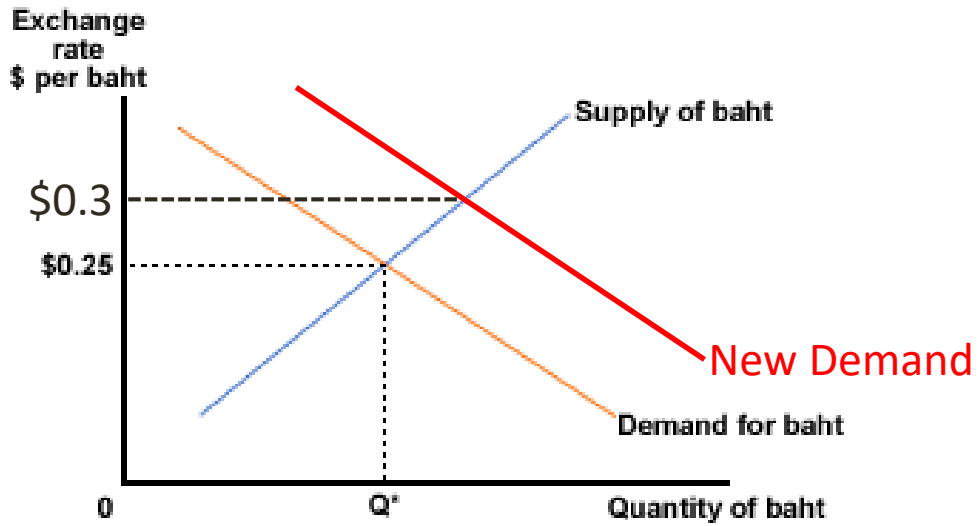
- **Revaluation** an official increase in the value of the currency in relation to a foreign currency.
- **Devaluation** an official decrease in the value of the currency in relation to a foreign currency.

Floating Exchange Rate



Floating Exchange Rate

- When Demand for baht increases (shift right), the price of baht (exchange rate) also goes up.
- From $0.25 / 1 THB to $0.3 / 1 THB, we have
  - Appreciation in THB
  - Depreciation in USD



Floating Exchange Rate

- In Floating Exchange Rate Regime, everything works as in the demand/supply diagram.

- Higher Demand for THB >> Appreciation of THB
- Higher Supply of THB >> Depreciation of THB

- We need to think about the factors that affects the demand and supply of currencies.

Floating Exchange Rate

Factors that affects the demand and supply of currencies

- Thailand increases import:

  >> more D of USD = more S of THB

  >> THB depreciates while USD appreciates.

- Thailand attracts US investors:

  >> more D of THB

  >> THB appreciates while USD depreciates.

- Thailand has higher interest rate

  >> higher return attracts US investors.

  >> more D of THB

  >> THB appreciates while USD depreciates.

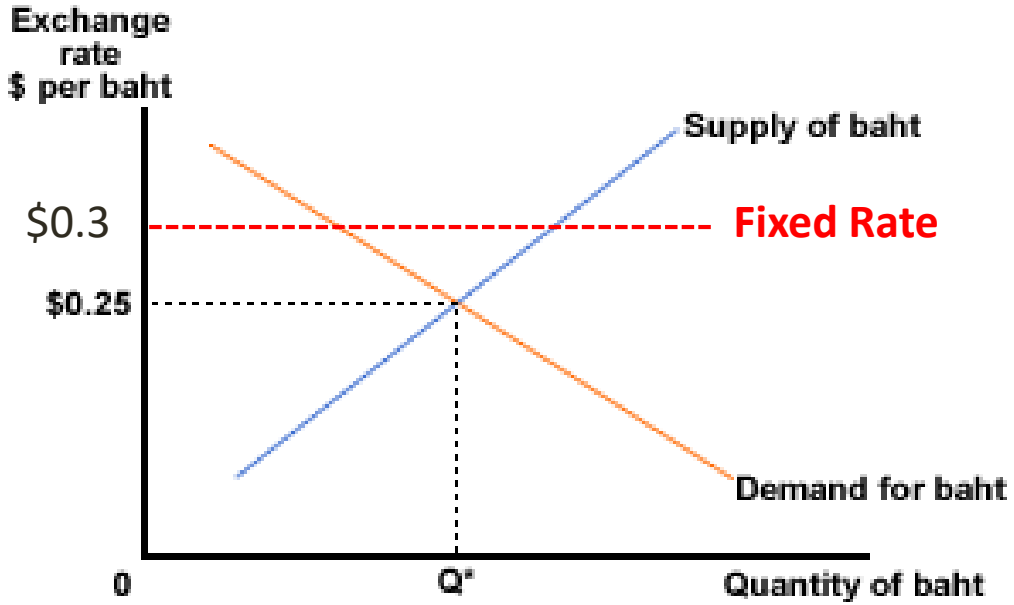
Floating Exchange Rate

Factors that affects the demand and supply of currencies

- Inflation is a complex factor:
  - It can increase interest rate (Fisher's Equation) and attract foreign investors. (THB appreciates)
  - But it can imply that domestic goods become more expensive, thus reducing export while raising import. (THB depreciates)
  - Moreover, the purchasing power of the currency is eroding, which discourages anyone from holding the currency. (THB depreciates)
  - Thus, its negative effect tends to be greater.

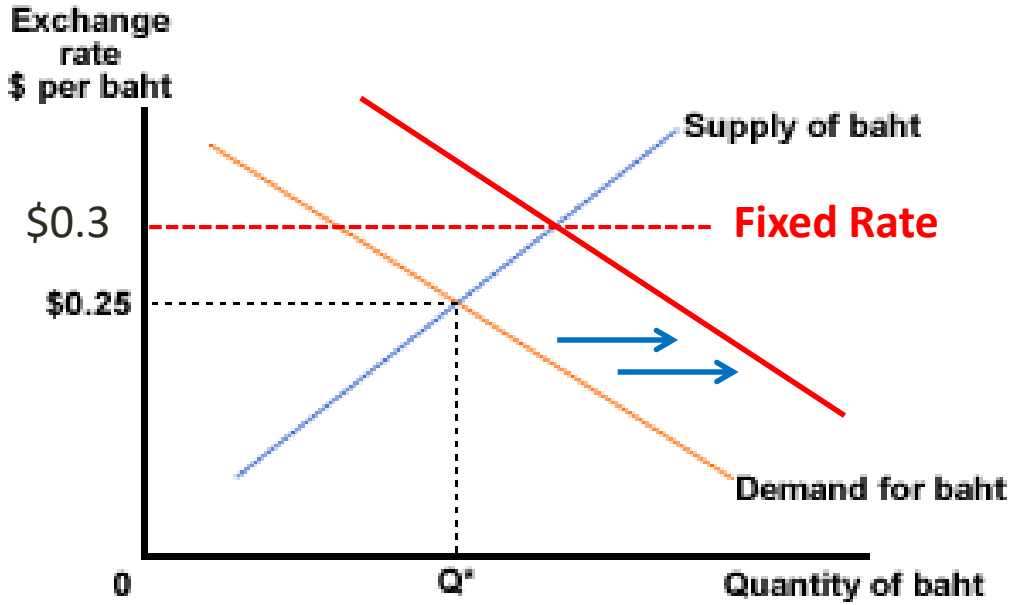
Fixed Exchange Rate

- Now, suppose the central bank of Thailand wants to fix the exchange rate at 0.3 USD / 1 THB. But the equilibrium exchange rate is currently at 0.25 USD / 1 THB.
- What can **the CB of Thailand** do?



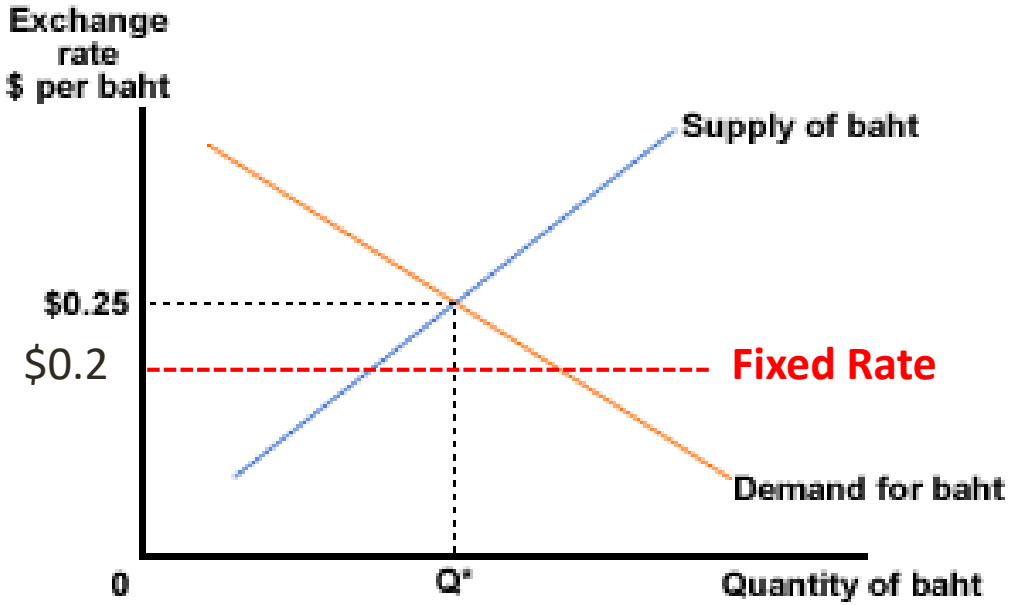
Revaluation

- The CB can increase Demand for baht.
- It can buy baht (and sell USD) from the foreign exchange market. This will lead to appreciation in THB.



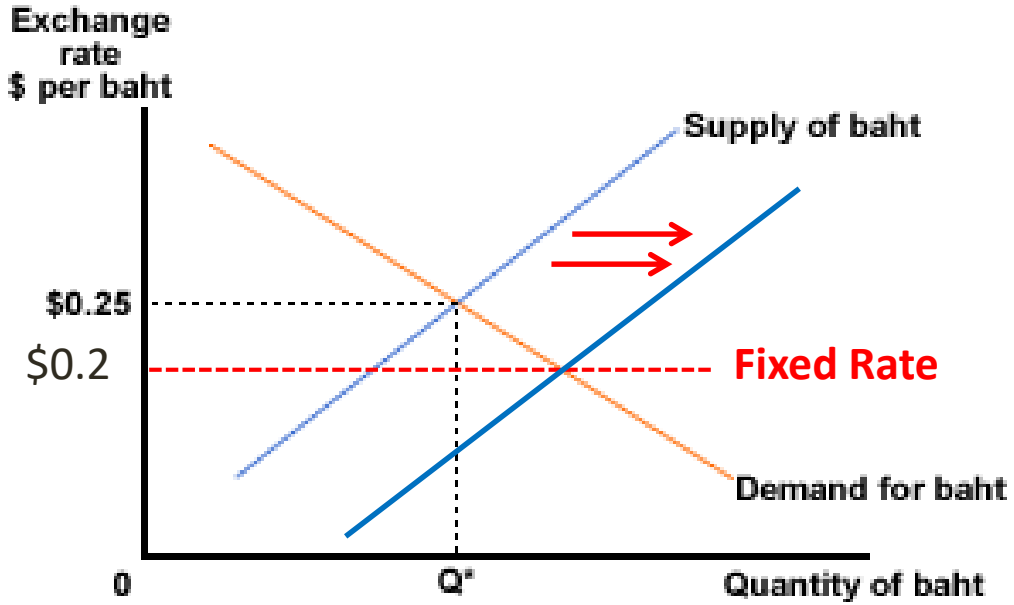
Fixed Exchange Rate

- Now, suppose the central bank of Thailand wants to fix the exchange rate at 0.2 USD / 1 THB. But the equilibrium exchange rate is currently at 0.25 USD / 1 THB.
- What can **the CB of Thailand** do?



Devaluation

- The CB can increase Supply of baht.
- It can sell baht (and buy USD) from the foreign exchange market. This will lead to depreciation in THB.



Real Exchange Rate

- What we have studied so far is the “nominal” exchange rate (NER). For example, we know that to get 1 USD, we have to pay around 30 THB.

- **1 USD in the US may not worth the same as 1 USD in Thailand**. This is why we have “Real” exchange rate.

- **Real exchange rate (RER) looks at the purchasing power of a currency.**
- For example, if RER = 1, then both 1 USD and 30 THB can be used to buy the same good in two countries.

Real Exchange Rate

- Suppose that NER (THB/USD) = 30 THB / 1 USD.
- A bottle of water costs 30 Baht in Thailand.
- The same bottle costs 2 USD in the US.

- RER(THB/USD) = NER(THB/USD) x (P_{US} / P_{TH})
  = (30/1) x (2/30) = 2
- **RER implies that, in terms of purchasing power, people are willing to exchange 2 Thai water with 1 US water.**

- **RER is expressed in terms of goods, not currency.**

PPP Exchange Rate

- **Law of One Price** If the costs of transportation are small, the price of the same good in different countries should be roughly the same.

- **Purchasing-Power-Parity Theory** A theory of international exchange, stating that exchange rates are set so that the price of similar goods in different countries is the same.

- **In short, PPP uses LOP to create the PPP exchange rate.**
- **Economists use it to compare GDP between countries.**

PPP Exchange Rate