# FN211 The Foreign Exchange Market

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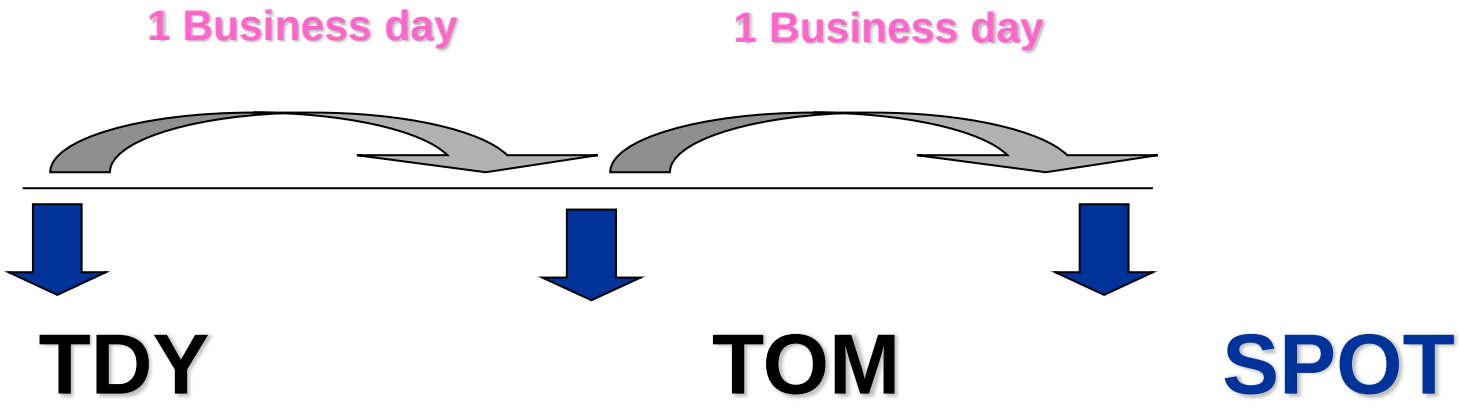
**There are two kinds of exchange rate transactions**

- The predominant ones called spot transactions, involve **the immediate (two-day)** exchange of bank deposits.
- Forward transactions involve the exchange of the bank deposits at **some specified future date**.
- The spot exchange rate is the exchange rate for spot transaction, and the forward exchange rate is the exchange rate for the forward transaction.

# Spot VS Forward transaction

## Spot transaction means

**buy/sell FX and deliver in the next two days after the day you enter into transaction**




## What does it mean?

**Today is the transaction that is deliver today within the transaction date through account and realize Foreign Position**

**TOM, Spot is the transaction that is deliver on the other days (Spot T+1 และT+2) but not forward transaction**

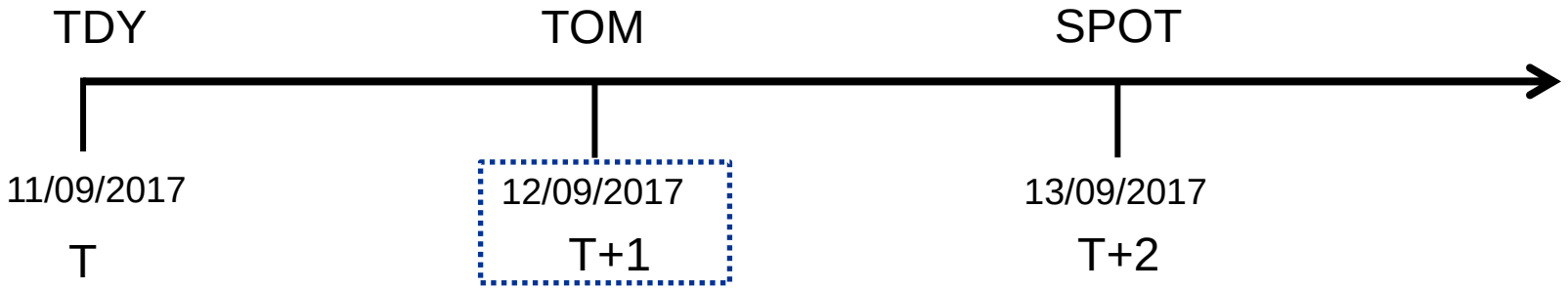
# Spot/ Today/ TOM -Day count convention

**Today means the transaction that is deliver within the date of the transaction**

For example, the client buy/sell USD/THB on 11 September order **value today means the transaction is delivered 11 September 2017**


**FX value tomorrow means Next day transaction**

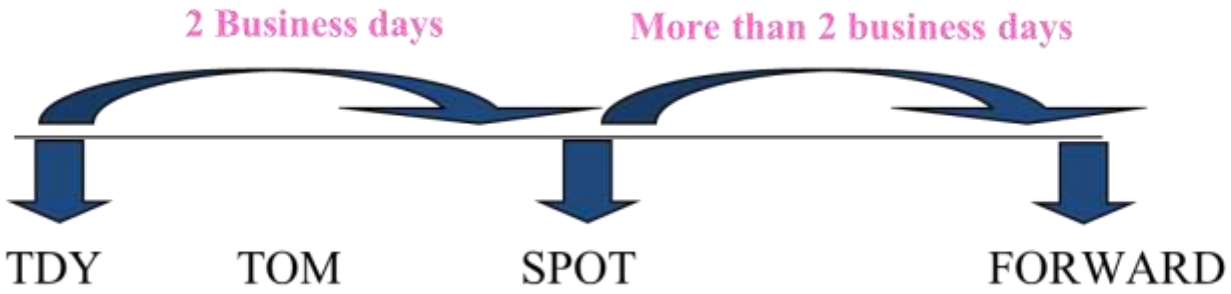
For example, if the clients buy/sell USDTHB , deliver on T+1 or T+2 for example, T+1 If the transaction occurs on 11 September. The payment will be delivered on 12 September 2017



# Forward Market

**The agreement to buy/sell FX in the future, more than two days** according to notional, maturity and FX rate that is in the contract

| Forward Rate | = | Spot Rate | + | Swap Point (the different between the interest rates in the two currency) |
|---|---|---|---|---|



# Forward Swap Point

**"There is no free lunch" – borrowing/lending in 2 currencies in the same period of time should yield the same return when comparing in the same currencies.**

1 USD = 33.10 THB

Deposit/ Lend 1 USD IR 0.89% for 6 months

Deposit/Lend 33.10 THB IR 1.49% for 6 months

Borrow 1 USD → IR for borrowing 1M = 0.89%

USD IR 1*0.89%* 6/12 = 0.004455 USD

Principal 1 USD

Total 1 + 0.00445 = 1.00445

1 USD equal to 33.10 บาท → IR for borrowing 1M is 1.49%

**Forward 6 M** =33.3465/1.00445= 33.1987

**Forward premium** = 33.1987-33.10 = 0.0987 THB or 9.87 bps

# Example of FX quote- counter rate

**Foreign Exchange Rates** | Graph

Date: 22 Nov 2017 | Update: 1: 08:30 | Refresh | Print

| Currency | Description | Bank Note | | Buying Rates | | Selling Rates |
|---|---|---|---|---|---|---|
| | | Buying Rates | Selling Rates | Sight Bill | TT | Bill-DD-TT |
| USD1 | USD: 1-2 | 31.60 | 32.95 | | | |
| USD5 | USD: 5-20 | 31.95 | 32.95 | | | |
| USD50 | USD: 50-100 | 32.35 | 33.02 | 32.50 | 32.60 | 32.90 |
| GBP | United Kingdom | 42.66 | 44.63 | 42.90250 | 43.01500 | 43.87250 |
| EUR | Euro Zone | 37.83 | 38.99 | 37.98375 | 38.07500 | 38.80750 |
| JPY | Japan (:100) | 28.57 | 29.75 | 28.76875 | 28.83625 | 29.56000 |
| HKD | Hong Kong | 4.09 | 4.25 | 4.15250 | 4.16625 | 4.21875 |
| MYR | Malaysia | 7.58 | 8.07 | 7.78875 * | 7.83125 * | 8.05000 * |
| SGD | Singapore | 23.74 | 24.55 | 23.87000 | 23.93500 | 24.44375 |
| BND | Brunei | 23.20 | 24.45 | - | - | - |
| CNY | China | 4.68 | 5.04 | 4.85125 | 4.89375 | 4.99500 |
| IDR | Indonesia (:1000) | 2.05 | 2.58 | 2.29035 | 2.32025 | 2.52125 |
| MMK | Myanmar (:100) | - | - | - | - | 2.43250 |
| INR | India: 50-1000 | - | - | - | - | 0.52750 |
| KRW | Korea | 0.0273 | 0.0324 | - | - | - |
| LAK | Laos (:1000) | - | - | - | - | - |
| PHP | Philippines | 0.52 | 0.68 | - | - | 0.66250 |
| TWD | Taiwan | 0.97 | 1.16 | - | - | - |
| AUD | Australia | 24.11 | 25.46 | 24.37750 | 24.45000 | 25.15250 |
| NZD | New Zealand | 21.96 | 23.22 | 22.08000 | 22.15000 | 22.68500 |

## Currency Pair

- Market convention is
  - USDTHB means the price of 1 USD is equal to ….?
  - USDTHB 32.80 means the price of 1 USD is equal to 32.80 THB
  - It is standard to quote the price of USD, or USD is equal to….., except 4 currencies.
  - The exceptions are four currencies are GBP, EUR, AUD, NZD. That is **direct quote**.
  - They always quote itself like GBP/USD, EUR/USD etc.

## How to determine appreciate or depreciate?

- **Simple logic:** When a currency increases in value, it experiences appreciation; when it falls in value and is worth fewer U.S. dollar, it undergoes depreciation

- **For example,**

On 1 October 2017, USDTHB is 33.20, on 30 October 2017 USDTHB is 33.50. The USD appreciated by 0.9%. Vice versa, we could say that THB depreciated by 0.9%.

# Exchange rate have an effect on the relative price of domestic and foreign goods

## Exchange rates are important because they affect the relative price of domestic and foreign goods. The dollar price of THB goods to an American is determined by the interaction of two factors

- Price of THB goods in USD
- The THB /dollar exchange rate
- Here are an example

| For product value THB 1,000 | |
|---|---|
| **Spot rate** | FX 32.50 THBUSD |
| **If THB appreciate** | FX 32.00 THBUSD<br>Product THB 1,000 is equivalent to<br>USD =1000THB /32 = 31.25USD |
| **If THB depreciate** | FX 34.00 THBUSD<br><br>Product THB 1,000 is equivalent to<br>USD =1000THB /34 = 29.4 USD |

# Implication of Depreciation or Appreciation

- When a country's currency **appreciates**, (rises in value relative to other currencies), the country's goods abroad become more expensive and foreign goods in that country become cheaper (holding domestic prices constant in the two counties).

- Conversely, when a country's currency **depreciates**, its good abroad become cheaper and foreign goods in that country become more expensive

## How Foreign Exchange is traded?

The foreign exchange market is organized as an **over-the-counter** market in which several hundred dealers (mostly banks) stand ready to buy and sell deposit denominated in foreign currencies.

These dealers are in constant telephone and computer contact, the market is very competitive; in effect, it functions no differently from a centralized market.

Important point to note is that while bank, companies, and governments talk about buying and selling currencies in foreign exchange markets, they do not take a fistful of dollar bills and sell them for British pound notes. Rather, **most trades involve the buying and selling of bank deposits denominated in different currencies.**

So when we say that a bank is buying dollars in the FX market, what we actually mean is that the bank is **buying deposits denominated in dollars.**

## What determine exchange rate?

**Exchange rates are determined by the interaction of supply and demand.**

1. **Short Run determination-** we use the law of one price and theory of Purchasing Power Parity.

2. **Long Run determination-** relative price levels, tariffs and quota, preference for domestic versus foreign goods, and productivity.

# Short run determination of Exchange rate

Like the price of any good or asset in a free market, exchange rates are determined by the interaction of supply and demand.

**1) Law of One Price:** if two countries produce an identical good and transportation costs and trade barrier are very low, the price of the good should be the same throughout the world, no matter which country produces it.

Suppose that American steel cost $100 per ton and identical Japanese steel costs 10,000 yen per ton. For the law of one price to hold, the exchange rate between yen and dollar must be **100 yen per dollar**, so that one ton of American steel sells for 10,000 yen in Japan (the price of Japanese steel) and one ton of Japanese steels sells for $100 in the United States (the price of U.S. steel)

**2) Theory of Purchasing Power Parity (PPP)**

- Exchange rates between any two currencies will adjust to reflect changes in the price levels of the two countries

- If the law of one price holds, a 10% rise in the yen price of Japanese steel results in a 10% appreciation of the dollar. Applying the law of one price to the price levels in the two countries products the theory of purchasing power parity, which maintains that if the Japanese price level rises 10% relative to the U.S price level, the dollar will appreciated by 10%

# Factors that affects Exchange Rates in the Long Run

- 4 factors affect the exchange rate; relative price levels, tariffs and quotas, preferences for domestic vs foreign goods, and productivity.

- Reasoning is that ‘anything that increases the demand for domestically produced goods that are traded relative to foreign trade goods tends to **appreciate the domestic currency** because domestic goods will continue to sell well even the value of the domestic currency is higher.

- Anything that increases the demand for foreign goods relative to domestic goods tends to **depreciate the domestic currency** because domestic goods will continue to sell well only if the value of the domestic currency is lower.

**If a factor increases the demand for domestic goods relative to foreign goods, the domestic demand will appreciate, if a factor decreases the relative demand for domestic goods, the domestic currency will depreciate.**

# Factors that affects Exchange Rates in the Long Run

## 1. Relative Price Levels:

- When prices of American goods rise, the demand for American goods falls and the dollar tends to **depreciate** so that American goods can still sell well.

- If prices of Japanese goods rise so that the relative prices of American goods fall, the demand for American goods increases, and the dollar tends to appreciate because American goods will continue to sell well even with a higher value of the domestic currency.

- In the long run, a rise in a country's price level (relative to the foreign price level) cause its currency to depreciate, and a fall in the country's relative price level causes its currency to appreciate.

## 2. Trade Barriers

- Barriers to free trade such as tariffs (taxes on imported goods) and quotas (restrictions on the quantity of foreign goods that can be import) can affect the exchange rate.

- Suppose that the U.S. increase its tariff or puts a lower quota on Thailand's agriculture product. There increases in trade barrier increase the demand for U.S agriculture, and the dollar tends to appreciate because American agriculture products will still sell well even with a higher value of the dollar.

- **Increasing trade barriers causes a country's currency to appreciate in the long run.**

## 3. Preference of Domestic VS Foreign goods

- If the Japanese develop an appetite for American goods –say Florida oranges and American movies- the increased demand for American goods tends **to appreciate the dollar**, because the American goods will continue to sell well even at a higher value for the dollar.

- Likewise, if Americans decide that they prefer Japanese cars to American cars, the increased demand for Japanese goods (imports) tend to depreciate the dollar.

- **Increased demand for a country's exports causes its currency to appreciate in the long run; conversely, increased demand for imports causes the domestic currency to depreciate.**

## 4. Productivity

When productivity in a country rises, it tends to rise in domestic sectors that produce traded goods rather than nontraded goods. Higher productivity is associated with a decline in the price of domestically produced traded good relative to foreign traded goods.

As a result, the demand for traded domestic good rises, and the domestic currency tends to appreciate.

If, however, a country's productivity lags behind that of other countries, its traded goods become relatively more expensive and the currency tends to depreciate.

**In the long run, as a country becomes more productive relative to other countries, its currency appreciates**.

## Exchange Rate Regimes in the International Financial System

Exchange rate regimes in the international financial system are classified into two basic types**; fixed and floating.**

- Fixed exchange rate regime: the value of a currency is pegged relative to the value of one other currency (called the anchor currency) so that the exchange rate is fixed in terms of the anchor currency.

- In a floating exchange rate regime, the value of a currency is allowed to fluctuate against all other currencies.

# Exchange rate system- Managed Floating system

**Most exchange rates are currently allowed to change daily in response to market forces,** many central banks have not been willing to give up their option of intervening in the foreign exchange market.

**Countries with surpluses** in their balance of payment frequently do not want to see their currencies appreciate, because it makes their goods more expensive abroad and foreign goods cheaper in their country.

Appreciation might hurt sales for domestic businesses and increase unemployment, surplus countries have often sold their currency in the foreign exchange market and acquire international reserve.

**Countries with balance-of-payments deficits** do not want to see their currency lose value, because it makes foreign goods more expensive for domestic consumers and can stimulate inflation.

To keep the value of the domestic currency high, deficit countries have often bought their own currency in in the foreign exchange market and given up international reserves.

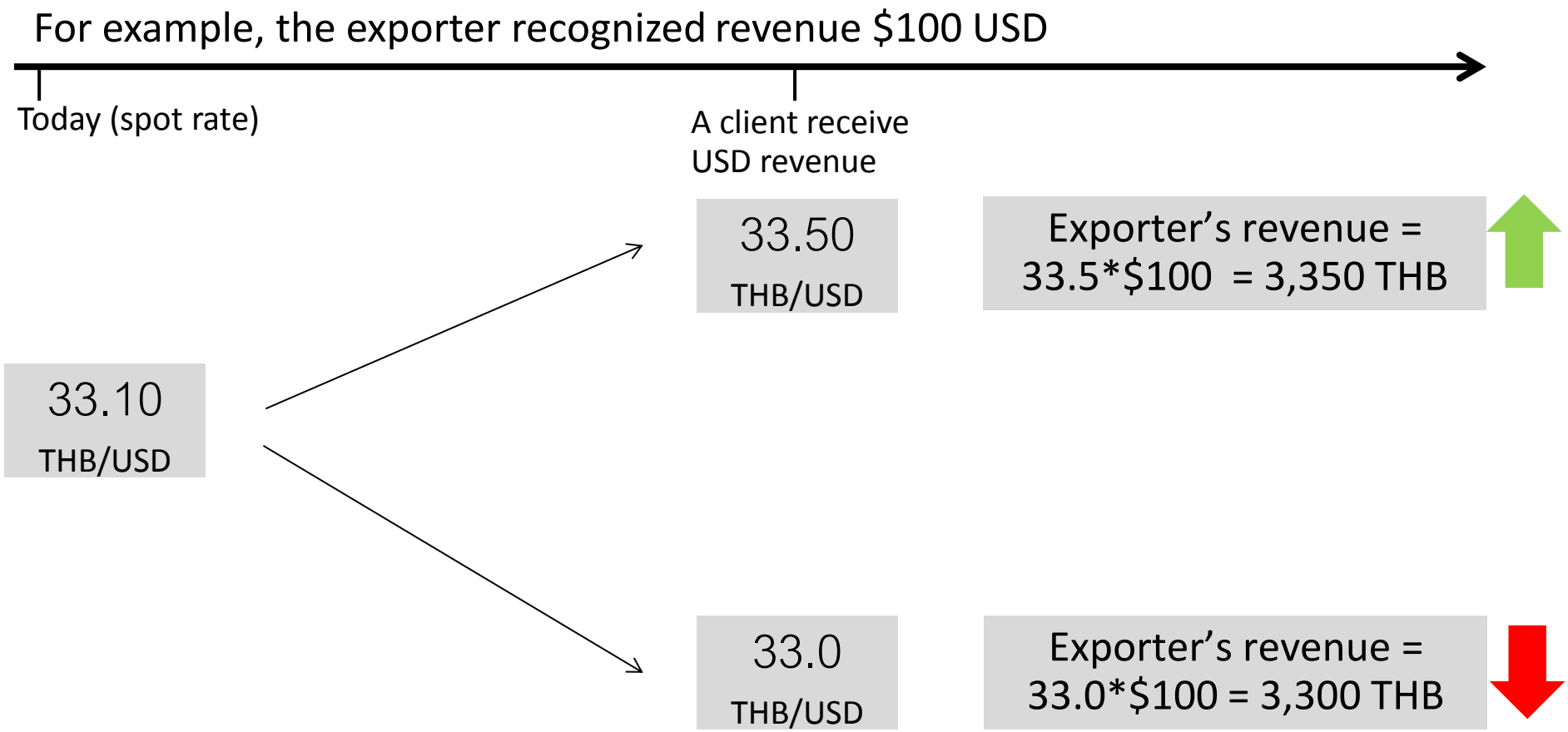
# Managed Floating Regime

Since July 1997, Thailand has adopted the **managed-float exchange rate regime**, which is also consistent with the inflation targeting regime that has been in place since 2000. Under the inflation targeting framework and the managed-float, the value of the baht is allowed to be determined by market forces, reflecting demand and supply for the baht in the foreign exchange market.

**Under the managed float, the Bank of Thailand (1) does not target a fixed level for the exchange rate, (2) stands ready to intervene in the case of excess volatility, particularly resulting from speculative capital flows, in a manner consistent with the Bank's inflation targeting framework.**

In some instances, however, supply and demand may be at a disequilibrium, leading to excessive volatility in the value of the baht. The Bank of Thailand aims to ensure that the value of the baht is allowed to fluctuate under the following conditions; (1) **the Bank of Thailand stands ready to intervene in the foreign exchange market such that volatility of the exchange rate is at a level that the economy can tolerate,** (2) maintaining national competitiveness, as measured through the Nominal Effective Exchange Rate (NEER), which comprises currencies of important trading partners - and not just the US Dollar, and (3) any intervention does not go against economic fundamentals which would otherwise lead to further imbalances.

# FX Option


For example, the exporter recognized revenue $100 USD
Today (spot rate)
A client receive USD revenue
33.10 THB/USD
33.50 THB/USD
Exporter's revenue = 33.5*$100 = 3,350 THB
33.0 THB/USD
Exporter's revenue = 33.0*$100 = 3,300 THB